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Agriculture Improv'd.

OR, THE

PRACTICE

OF

HUSBANDRY

DISPLA Y'D.

Chiefly shewn by FACTS,
Performed in all Sorts of Land, according to the Old *Plain*,
and the New *Drill*, Way of FARMING.

In TWO VOLUMES: Containing,

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| <p>A Receipt how to improve an Acre of Barley for Six-pence Charge.</p> <p>How to improve that noble large Fowl the <i>Bustard</i>.</p> <p>The Nature of Pond-Insects; Also of Serpents; and how to cure their venomous Bites, &c.</p> <p>How to prevent the Mischiefs done to Farmers by Sparrows.</p> <p>Of St. <i>Timothy's</i> Grass, (five Feet long) which will mow four Times a Year.</p> <p>Of NIGHT as well as DAY FISHING.</p> <p>Tench-Broth, its Restorative Nature; and how to make it.</p> <p>Mr. <i>Worlidge's</i> Notes on Husbandry commented upon.</p> <p>Of Improving of Estates, Soils, Bogs, &c.</p> <p>Of the Management of B E E S.</p> <p>How to prevent Damage done to Peas by Pigeons, &c.</p> <p>Accounts of several new-invented Engines</p> | <p>and Implements, of great Use in Husbandry.</p> <p>How Farming may be carried on by the Drill-Plough, without Dung, Manure, or live Cattle.</p> <p>How to preserve Wheat in Granaries, from Damps, Vermin, &c.</p> <p>How to defend Crops of Turnep-feed from Field-Fowls.</p> <p>Of Encouragements from Landlords to promote the Industry of Tenants.</p> <p>The present State of bad Husbandry in SCOTLAND; with Proposals for remedying it.</p> <p>The <i>Cheshire</i> and <i>Lancashire</i> Way of Managing their Wheat and Barley Crops.</p> <p>Of the bad Consequences of wrong Manuring, wrong Ploughing, &c.</p> <p>Damage done by greedy Tenants to Themselves and Landlords, by Ploughing up the poor Lands of Wouds, Downs, and Commons.</p> |
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With many other Curious and Serviceable Matters,
Never before Published.

V O L. II.

By WILLIAM ELLIS, a Farmer, of *Little Gaddesden*, near *Hemsted*,
in *Hertfordshire*, Author of the MODERN HUSBANDMAN.

L O N D O N:

Printed for T. OSBORNE, in *Gray's - Inn*. MDCCXLV.



AGRICULTURE Improved.

For the Month of July.

C H A P. I.

MR. Worlidge's *Directions to the Husbandman for the Month of July.* — In thirsty July would the parched Earth be glad of a moistening Shower, to refresh and revive the scorched Vegetable. Now is there an equal Care taken to avoid *Phæbus's* bright and burning Beams, as in Winter the furious Blasts of *Boreas*. Tempests now much injure the laden Fruit-trees, and standing Corn, to the great Detriment of the Husbandman.

Now is the universal Time of Hay-making. Lose not a good Opportunity, especially if fair Weather be scarce.

Mow your Head-lands, and fallow where the Land requires it; and gather the Fimble, or earliest Hemp and Flax.

At the latter End of this Month Corn-harvest begins in most Places, in a forward Year.

Still carry forth Marl, Lime, and other Manure; bring Home Timber and Fuel, and other heavy Materials.

Wheat and Hops are now subject to much Damage by Mildews.

Sow Turnep-feed in this Month.

It is the principal Time for Inoculation of choice Fruits, Roses, &c. and for the Summer-pruning of Wall-trees, for the making of Cherry-wine, Raspberry-wine, &c.

Cut off the Stocks of such Flowers as have done blossoming, and cover their Roots with new fat Earth.

Sow Sallet-herbs for the latter Salleting, and also Peas.

Take away the Snails from the mural Trees.

Slip Stocks, and other lignous Plants and Flowers, and lay Gilliflowers and Carnations for Increase, watering them, and shadowing them from the fervent Sun-beams. Lay also Myrtles, and other curious Greens; slip Box, and other ton-file Plants.

Graft by Approach, and inoculate Jessamines, Oranges, &c. Transplant or remove Tulips, and other bulbous Roots: Some may be kept out of the Ground, others immediately planted.

If the Season is very dry, the Watering of the Hops will very much advantage them, and make them more fruitful: If it prove moist, renew and cover the Hill still with fresh Mould.

Now Bees cast their latter Swarms, which are of little Advantage; therefore it is best to prevent them.

Streighten the Entrance of your Bees; kill the Drones, Wasps, Flies, &c.

The Author's Observations on Part of Mr. Worlidge's Directions for the Month of July; and first as to what he writes — That in thirsty July the parched Earth would be glad of a moistening Shower, to refresh and revive the scorched Vegetable; for that now as much Care ought to be taken to avoid the bright and burning Beams of *Phæbus*, as in Winter the furious Blasts of *Boreas*.

This is true in a thousand respects, but in particular for nourishing the Growth of Corn, Grass, and Trees; because Water is the Food of Plants; and of all Plants of Grain, none deserves our Regard so much as those of Wheat; and therefore I shall begin my Observations with this King of Grain.

Of the State of Wheat-crops in the Month of July. — It is an undoubted Truth, that a dry Summer is a propitious Season for the Growth of Wheat-crops, especially in Vale-lands, because the Soils of this Situation are, for the most part, of the stiffer and wetter Sorts; and therefore a dry Summer never fails of being in their Favour, for bringing on a plentiful Wheat-harvest: And for securing this great End the better, the prudent Sort of Farmers in some Parishes join in raising Money to buy a Trenching-plough, as being a most ingenious and serviceable Instrument for cutting Gutters, Drains, or Trenches, a Foot or more deep, and broad, at one Draught of the Horses, at the End of plow'd Lands, or in Meadow-grounds, for giving Waters an Opportunity to run off in due Time, and thereby deliver their Corn and Grass-lands from the Damage of those Inundations of Waters, which otherwise might drown and ruin their Crops. This Machine is so well contrived, that it will perform more of this Work in one Day, than twenty Men can do; and which I intend to give a Cut and Description of in *September* or *October*. A dry Summer produces a short Stalk, or Straw, and a large full Ear, in these Soils; and causes the Wheat to grow erect, free of the great Damage of falling down in its green Condition, or afterwards; which in some very hot Summers grows so luxurious, that whole Crops of Wheat have been laid flat, the Sap check'd, the Kernel starv'd, and become lean, like an Oatmeal-grout, if not rotted by long lay-

ing down in a wet Condition, before it could be reaped; as was the Case of many Crops in the Year 1735, when fifteen great Sheaves would hardly yield a Peck of Wheat. But a dry Summer keeps down the Growth of Weeds, and gives the Wheat Room to employ and draw the Nourishment of the Manure and Earth to itself; and then it is we say, there will be the less Straw, and the more Corn. A dry Summer is also the most propitious Season to the Bloom of Wheat; for then it enjoys its full natural Time to perform its Blooming, free of the Wash of Rains, which is its greatest Enemy; because heavy and too frequent Showers wash it off; and thereby hinder what we call full Kerning, or Corning; which can never be, unless the Wheat-ear goes through a regular Blossoming, or Blooming. The Vale-Farmers have had most prosperous Seasons for these four Years last past, from 1740, to 1744, both inclusive; better, as far as I can understand, than has happened to them for many Years, even Time out of Mind; for it is said, they never knew four successive dry Summers in their Lives before; and though Wheat has been at a low Rate for the three last Years, yet, by the great Quantities that they have reaped, they have got Money when many of the Chiltarne or Hill-Farmers have broke; because a Sand, a Gravel, a dry chalky Soil, or a dry Loam, is apt to burn, as we call it, so as to cause the Wheat to want Moisture enough to produce a full Ear. Hence it is, that some Chiltarne-Farmers lay their Dung on the Top of new-sown Wheat, which was harrow'd in such dry Soils, as believing it the best Way. *For Example:* In the Chiltarne Country, when Wheat is sown on only one Plowing of a Clover-lay, or on a Barley-stubble, by only harrowing it in, then we generally top-dress such Wheat, by
laying

laying on the Dung in a few Days Time after it is sown, to keep its Roots warm in Winter, and to shade them from too great Droughts in Summer; for were the Dung to be plowed in, and the Wheat-seed to be sown, and harrowed in afterwards, this, I say, would be wrong Management; because, in this Posture of lying, the Dung would wash down below the Roots of the Wheat, and thus be deprived of its necessary Nourishment. But when Dung is laid on the Top of the Wheat-seed, the Wash of Rains will carry its Quintessence, in a regular Manner, from time to time, on the Wheat-roots. Indeed, in some chalky, gravelly, and sandy Loams, it is practised to sow their Wheat in broad Lands, and woolen Rags, at the same time, chopt small, and plow both in together; and thus one Plowing performs both, which is good Husbandry; because such chopt Rags, lying in the same Stratum of Earth with the Wheat-roots, supply, in some Degree, a Watering-pot; for on every Shower of Rain that wets these Rags, they receive and retain such a Supply of Moisture as nourishes the Wheat-root a considerable Time. So that the driest Summer cannot burn or dry the Wheat-roots, so much as to spoil their Crop. And this it the more surely performs, by reason the Cover of Earth that lies on the Roots contributes to shade them, and shelter the Rags from the Vehemency of Droughts. So likewise do the Wheat-stalks, when they are arrived to a Foot or more in Height, prove an additional Shade or Shelter, both to the Rags and Wheat-roots; inso-much that many Acres of Wheat, that grow on the Declivities of hurlucky, chalky, and other dry steep Hills, are seen, by these means, to grow in dry Summers into full Crops, like those in Vales-lands. But were it not for such a Dressing of woolen Rags, the Wheat-roots, in such a Situation

tion and Soil, and in a long dry Summer, would complain, be short-strawed, and short-eared, for want of Moisture enough to support the Growth of the Stalks and Kernels. So when Dung and Wheat, or Horn-shavings, with the Wheat-feed, are ploughed in together in dry Soils, or in any Shape of Ridge-lands, they will answer in a great Degree the same End, by hollowing the Earth, and receiving and lodging the Rains and Dews. Yet this King of Grain will grow and thrive in dry Seasons, much better than Barley-peas, or Beans, and indeed most other Vegetables. But as none of them, neither in Field or Garden, are free from Casualties, even in such a dry Summer, the Wheat is liable to be damaged by what we call a Stroke; others call it Blight; that is, when the Honey-dews, for want of a brisk Wind, or Rain, at the Time of their falling, make a Lodgment on the Ears, or Stalks, of the Wheat; and there, by its glutinizing Nature, close and bind the Huse, or Hull, wherein the soft Kernels of the Wheat grow so tight, that they can't expand and enlarge themselves; and then they become a lean poor Corn. So likewise have these Honey-dews the same Effect, when they fall on, and lodge on the Straws or Stalks of the Wheat; which it is often seen to do in Spots, that strew themselves, as the Straw ripens, in a blackish Colour, that proves its burning Nature; and by this Quality, it checks the Ascent of Sap, and causes too sudden a Maturity of the Stalks and Ears.—In this Case, such a Wheat-crop should be reaped the first of any other; because the longer it stands, the more the Kernels will shrink, and the Straw be the worse. This Disease, or Casualty, happens seldom to Crops of Wheat sown in open Fields, where the Wind and Rain have large Room to extend themselves; for here, a little Wind has

Power

Power to wave, and keep in a moving Motion, the Ears and Stalks of Wheat ; and thus prevents the Honey-dews making their Lodgments ; while the inclosed Fields (especially the least Sort of them), for want of Room, come under this grand Misfortune.

How one of the greatest, skilfullest, and most diligent Farmers in Hertfordshire, had the worst Wheat-crop in the Year 1744, that ever he had in his Life.—

A great Farmer, who now lives within ten Miles Distance of *Little Gaddesden*, and rents a Farm of near six hundred Acres of Land, for three hundred Pounds a Year, is justly accounted one of the best Farmers in this County, for his Skill and Diligence in carrying on his Husbandry Affairs, after the old and common Mode of Farming, and getting more Money than many others. Yet this very Farmer lost considerably by this Year's Crop of Grain, as I shall make appear by the following Accounts : And first I shall begin with his Wheat-crop. Of this Grain he commonly sows great Quantities ; sometimes he has near two hundred Acres of Wheat growing in one Year, in his largest Season, in Clays, Loams, and Gravels. These three Sorts are his chiefeft Soils, which, in 1743, he had prepared for sowing Wheat, by several skilful Plowings, till he had got their Earths into a pulveriz'd State, dressed and manured them in a plentiful Manner, with Cart-dung ; the Fold, with Soot, and other Assistance ; yet, for all this, I heard him declare, as I was accidentally in a Room with him, that his Crops were the worse for being sown under these Advantages. This, to some Persons, may seem a Paradox, or a Contradiction to Reason ; but the Truth of it is easily made appear ; for his Wheat-crop suffered very much in the cold dry Spring, 1744 ; and held so long, that the Weather shortened the Surface-earth to a great Degree ;

Degree ; especially that which lay high, in two Bout-ridge Lands, and which the Dung, and other Dressings, had so hollowed, as gave the Winds Power to blow away the dusty or powder'd Part from its first Situation ; and thereby the Wheat-roots became almost uncovered. Next after this succeeded a dry Season, for the greatest Part of the Summer, even till the latter End of *August* ; in which Time, the Sun and Air had such Influencies on the Wheat-roots, as dry'd and much parch'd them, under their shallow Covering of Earth ; so that they produced a small short Straw, Ear, and Kernel : To this, the hot Dung and Manure much contributed ; and the more, where his Wheat grew in warm, dry, gravelly Soils, which still added to the Misfortune ; for I heard him say, he believed he had not one fourth Part of a full Crop of Wheat, in Harvest, 1744. Which Case plainly shews

How the Drill-plough, and Dutch Hoe, would have prevented the Damage of Chiltorne Wheat-crops, in the Year 1744. ——— As the Damage of Chiltorne Wheat-crops this Year was chiefly owing to a long, dry, cold Spring, and a long, dry, Summer Season, I say, the Use of the Drill-plough and Dutch Hoe might, in a great measure, have prevented it in most of this Farmer's Fields, that were not too full of Stones. As to his clayey Loams, they would not have hindred the Operation of this valuable Instrument, if the Ground had before been prepared for it, by previous and proper Plowings with the common Plough, and thereby reduced the Earth into a sufficient Fitness ; for into such a Condition it must be brought before the Drill-plough can rightly perform its Work ; and when it is so, the Wheat-feed will drop out of the Hopper into the Drill, in a most regular Manner, not too deep, or too broad ; because such regular Sow-
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ing is adjusted by the Going of the three Wheels, and setting the Plough deeper, or shallower, as the Ploughman thinks best. Now as soon as this Drill-plough has dropt its Seed into the Drill, the same is made so narrow and deep, that the Earth immediately falls in upon it in the lightest Manner possible, and leaves the Seed cover'd, shelter'd, and shaded against the Beaks of Field-fowls, and the Damage of Frosts and Droughts. Thus the Wheat-feed lies not only secured from the Accidents of Weather and Birds, but also under an Improvement of its Growth, by the Salt that afterwards washes down on its Roots, from the loose light Earth that covers them, and which, in part, becomes a Dressing to them, till the light *Dutch* cheap Hand-hoe gives a further Addition of such Dressing to them; and this it does in a plentiful Degree, when it is made use of once or twice in the following Spring-season, by killing the Weeds of the twelve Inches wide Intervals, and gathering up the Mould to the Roots of the Wheat, where it lies for the Rain to wash its Salts on them, and preserve them from the too violent Heats and Droughts of the Sun and Winds. This is so advantageous a Piece of new Husbandry for improving the poorest, as well as richest Grounds, that it has made its Way, or Practice, into the fertile Fields, or open Vales; where, to save Dressing and Manure, it has, to my Knowledge, been made use of these two last Years, by a Gentleman that greatly approves of it; because, at the Harvest, 1744, his Wheat that was so drill'd, exceeded all others sown in that Part of the Country. But as some may object against the Charge of Hand-hoeing, I can inform them of a Method to sow Wheat-feed to a great Advantage, out of the Hopper of a Three-wheel Drill-plough, that will intirely prevent such an Expence; because the

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Ground of the Intervals between the Rows of Wheat need not be hoed at all: And this I will do to all that shall think fit to send to me for this Three-wheel Drill-plough, that will do its Work exquisitely well, in all manner of Clays, Loams, gravelly, or any other Soil that lies dry, and can be got into a fine Tilth, free of large Stones. What a great Advantage then must this profitable Instrument have proved to this Farmer, had he made use of but two of these Drill-ploughs at once, in his large Farm, for Dispatch-sake! They would undoubtedly have been the Means of preventing, in a great Degree, the fatal Accidents of the Frosts and Droughts, that partly ruin'd his Crops of Wheat. This is a Matter of the highest Importance to all those Farmers who rent the biggest Sort of ploughed Farms; because when they suffer by having all or most of their Crops of Wheat lean and poor, their Loss is so much the more, as their Rents are larger; for where a Farm contains little Ground, the Loss is the less, and the Damage, perhaps, better borne, by the small Farmer: And as the Case stood with the before-mentioned great Farmer, it was supposed by his Neighbours, that the Misfortune would have broke him, had not his Pocket been pretty well lined with the Success of former Years Crops. But so tenaciously obstinate are most or all Farmers, in believing that no Way can be found out to their greater Advantage, than by carrying on their Husbandry-Affairs in their old beaten Road of Practice; whereas, had this great Farmer been acquainted with the Benefits that, in all Likelihood, might have been obtained by the Use of this Drill-plough, he would undoubtedly have got full Crops of Wheat by the same, instead of getting little more than the Seed he sow'd.

C H A P. II.

TH E *State of Barley-crops for the Month of July.* — Barley-crops likewise, in the Year 1744. suffer'd very much, by three several Accidents of Weather, especially that which grew in Chilturue Countries: First, by Snows; secondly, by Droughts; and lastly, by Rains. First, by Snows, that began to fall on the 31st Day of *March* 1744. and continued snowing the greatest Part of the Time between that Day and the Fifth of *April* following; so that the Snow lay several Inches deep in this Sowing-season, which disappointed some from making an End of sowing their Barley-feed, and others from beginning to sow it till very late; for after the Snow had fell, rainy Weather succeeded, and obliged many to defer plowing and sowing till the 23d of *April*. However, some adventurous bold Farmers, that had a great deal of Ground to sow with Barley, run a Risque of the Weather, and went on plowing and sowing of Barley in their dryish Soils, in such snowy Weather, but paid dearly for it; for they who proceeded in this Manner, had not above half a Crop of Barley at Harvest; for snowy and wet Weather is a great Enemy to good Plowing and Sowing. Secondly, Barley-crops very much suffer'd this Year, by reason of a long dry Season, that presently succeeded the Sowing of the Seed; which caused that Seed which lay lowest in the Ground, to sprout, and come up first, from the larger Share of Moisture the greater Cover of Earth occasioned. The next that sprouted was that Barley-feed which lay somewhat higher: And the last, that which lay the nearest the Surface, as having the least Share of Moisture, and Cover of Earth; whereby were produced the several Gra-

dations of the Seed's Growth, and consequently several Degrees of Ripeness at Harvest ; that is to say, ripe Barley, half-ripe, and unripe, or green Barley ; as was the very Case of many thousand Acres of Barley this Harvest : Yet these must be mown, and mix'd together ; and in this Condition, Malt must be made of the same, after the Barley has pass'd through its several Degrees of Sweating in the Mow. But what Sort of Beer and Ale must such Malt make ? Why, were I to enlarge on this Subject as much as I could, it would take me up a considerable Time, and employ several Sheets of Paper, to expose the same. But I shall desist from such an Attempt here, as being an improper Place for the same ; and proceed to say, that such a lamentable Misfortune arising from unripe Barley-corns to the Farmer, to the Maltster, to the Brewer, and to the Drinker, may be prevented, if Persons would be persuaded to go a Step out of the common Road of their old Practice, and not sow their Barley-feed in the naked Way as it ever was done, but to sow it after it has been first prepared, according to my former Receipt of making a Liquor mixt with Saltpetre, &c. which I am the first, and only Person that ever made public ; and for which invaluable Receipt, the Government, as well as many private Persons, ought to make me some Recompence ; since this, and other Nostrums that I have made known in my Books, have cost me a great deal of Money, Time, and Labour, to acquire in my several Years Travels and Correspondencies : For this my infallible Receipt is not only the Means, when long and dry Seasons have directly succeeded the Sowing of Barley-feed, to bring up the Barley-crop at once, in one and the same Growth, to the Farmer's, Maltster's, and Brewer's great Profit ; but it likewise greatly occasions the Increase of
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the Excise Revenue ; which I endeavour to prove as follows ; viz.

How Steeping or Infusing of Barley-feed increases the Revenue of Excise. — When Barley-crops, by the Inclemency of Weather grow from Seed sown in the naked Way, in three Degrees of Ripeness, as I have before explained ; such Barley can hardly make half good Malt : For Example, Let a Quarter of such imperfect Malt be brewed, which I will suppose to consist of one third Part good Malt ; one third Part of those Kernels that are half Barley, and half Malt ; and a third Part of all steely Malt, or Barley-kernels ; or, to write plainer, of coddled, or roasted Barley. What Drink must this Mixture produce ? I answer, That if a Brewer resolves to draw his usual Length of Wort from such a Quarter of mungrel Malt, as he usually does from a Quarter of good Malt, the Drink will not only be much weaker, but, I am sure, very ill-tasted besides ; and this, because such an adulterated Mixture must consequently produce a disagreeable, raw-tasted, and unwholesome Drink. If this is true, as I am certain it is, and what all ingenious Maltsters and Brewers must own, it must greatly lessen the Revenue of Excise ; for when a Person has tasted and drank a Mug or Pot of such ill-palated, unwholesome Ale and Beer, it becomes an Indication to him to forbear calling for another. Hence it is, that when such a long dry Season directly succeeds the Sowing of naked Barley-feed, as it did in 1744, and in many other former Years, neither the Barley, Malt, nor Drink, can be good ; and therefore, not near the Quantity of such Malt will be made and brewed, nor Beer drank, as when Barley-feed is steeped before sowing ; and by that means, Malt made, and Drink brewed in such Perfection, as will tempt Persons to esteem it the most natural, and, indeed, the most pleasant

pleasant Liquor this Island and the World afford ; and which consequently will greatly increase the Revenue of Excise, in the vast Consumption it will thus cause of distilled and brewed Liquors. And thus I hope I have made appear, by this short Essay, the inestimable Value of my Steeping Receipt, that has already, in some small Degree, been the Means of increasing the Revenue of Excise ; I say, in a small Degree, because few as yet have ventured to put it in Practice ; and those were some few Gentlemen, who had Sense and Courage enough to try this new and cheap, but sure Project ; and who have found it to answer accordingly, if they had a right Season for sowing the Seed in good Ground. As to common Farmers, it is well known they are the most obstinate People in the World, to be persuaded to the Practice of any new Matter in Husbandry-Affairs. But as the Practice of my Steeping Receipt meets every Year with greater Approbation, it is not to be doubted it will in a few Years be put into common Practice, both by Vale and Chiltune Farmers ; for both stand in need of steeping their Barley-seed, not only for preventing the Damage of long Droughts, but also for increasing their Crops, which, whether dry or wet Weather succeeds the Sowing of such steeped Seed, if the Seed was sown in a fine Tith Earth, and such Earth was first well dressed or manured ; by the Blessing of Heaven, a Farmer need not doubt of mowing seven Quarters of fine plump Barley off every Acre of Land, in much one and the same Ripeness. It is the Discouragement I have met with on these Accounts, that makes me discover some Things with Reluctancy ; and especially, for having an insipid trifling Price for my Copies, compared with that which some Authors obtain, for Works not one hundredth Part of the Value of those I have

have

have already published ; as is well known to many Gentlemen : And I have also to observe, that as I am encouraged from the Public, so they may expect I will make such further serviceable Discoveries of many Matters I never yet did, as will, I hope, give intire Satisfaction. But to return to my Account of the State of Barley-crops for the Year 1744 : They were in most Places housed very bad, even in the Western Parts of *England*, where most of their Barley suffered by long and great Rains, which kept it several Weeks in the Field after mowing, till the Straw became black, and the Kernels sprouted, and some made Dung of, that remained in the Field the latter End of *October*, and Beginning of *November*. So in the Northern Parts of *England*, Barley was, for the most part, either damaged, or totally spoiled : Which Misfortune was chiefly occasioned by the following Means ; viz. — Presently after the naked Barley-seed was sown, such a Set of dry Weather succeeded, that made the Crops grow (as I hinted before) in three several Degrees of Ripeness. Now when Farmers beheld this Sight at Harvest, they forbore mowing, and let the Barley remain in the Field much longer than usual, on Purpose to get the greenish Part equally ripe with the rest. But while this was expected, the Rains set in, and continued, with little Intermission, from about the Middle of *August* to the End of *November* ; so that little Barley was got in thoroughly dry. This is enough to shew the Value my Receipt is of, which prevents such a grand National Misfortune. A Misfortune indeed ! that had like to have been of fatal Consequence to Thousands, had it not been for a plentiful Year of Apples, which in a great measure supplied the Defect of Barley-crops, in the Produce of large Quantities of Cyder, and what we call Pompirkin, or Cyderkin : Else
Malt,

Malt, as bad as it was, would have been at an excessive Price, and the Poor thereby have suffer'd infinite Hardships. But so it happened, that Apples proved to grow in such Plenty throughout the Kingdom, that in *November 1744.* in *Hertfordshire*, a Man might buy good Cyder-apples, of various Sorts, for Four-pence a Bushel; and then twenty Bushels would have made one Hoghead of Cyder, and as much Cyderkin; which leads me to remember the Service that *Fulham* Barley-feed did to many who sowed it last Year.

The great Service that Fulham Barley-feed did to many that sowed it in 1744. ——— As hot dry Weather, for almost all the forward Part of the Summer, 1744. held even till (as I said) about the Middle of *August*, those who sowed *Fulham* rathripe Barley, got in their Crops betimes, and exceeding good, without Rain; because this is so forward a Sort in its Growth, that it is always ripe much sooner than any of the common Sort of Barley; and therefore, when our Barley sold in *Hempstead* Market for fourteen Shillings a Quarter, I gave twenty Shillings a Quarter for *Fulham* Barley; which I bought for Seed, and sent it to several Gentlemen, who lived in different Countries; and am ready to do the like to all who shall send me a proper Order.

C H A P. III.

THE State of Oat-crops for the Year 1744. ———

This last dry Summer also affected the Oat-crops to a great Degree, especially in Chiltune Soils; for where these were done in sandy, chalky, gravelly, or dry Loams, they, for the general Part, were dried much, and became poor Crops. Oats are a Grain that are harrowed into the Earth

for a Crop like Barley, which obliges their Roots to lie so near the Surface, that the Sun and Air have great Power to dry them, and check their Growth : and though dry Weather continues some time, and checks the Growth of Weeds, it also checks the Growth of Oats ; and so it did very much this Summer ; for hardly any Earth produc'd good Crops of them, except Clays, and stiff moist Loams. It was on this account that Marshes, Fens, and Vale-lands, returned the largest Crops of Oats ; and so they have done all Sorts of Grain that have been sown in them these four dry Years last past ; for a dry Summer is highly in the Favour of these Farmers, because nothing is more destructive to them than long rainy Seasons, that generally occasion Inundations of Waters, which overflow their low Lands, cripple their Crops, and rot their Cattle. But notwithstanding their plentiful Crops of Oats that appear'd in this Month, the Fens and Marshes suffered very much, by the Rains that fell in *August*, before they housed their Oats, and spoiled vast Quantities ; and so it did the more Northern Parts of *England*, where they are obliged to mow them late.

C H A P. IV.

TH E *State of Pea and Bean-crops for the Month of July.* ——— Peas are a Grain, for the most part, sown in Chilturue Conntries, because Vale, Marsh, and Fen-lands, are commonly too rich Soils for their Growth ; for if they are sown in these, they are apt to run into much Straw, and little Corn. It is also by this means, that when this Grain is sown here, and attains to a considerable Length of Growth, that they fall down ; and if a long wet Season happens in Harvest-
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time,

time, their Haulm and Pods are apt to rot as they lie. On this account it is, that Horse-beans are preferr'd, as a more proper Seed to be sown, and grow in these Soils; for the Stalks of these, though ever so rank, stand erect, when Peas fall, and are laid flat; and it is these Sort of Beans, that in low rich Soils, and wettish Seasons, grow into Stalks four or five Feet high, and carry on each of them sixty, seventy, eighty, ninety, or more Cods, or Pods of Beans; and when a Field is under such a fertile Growth of this Grain, it appears somewhat like a Spinny, or Spring of Underwood, and yields thirty or forty Bushels of Beans on an Acre. But in dry Seasons, even in Vale-lands, I have known their Crops to be very poor; for no Weather is more disagreeable to the Growth of Beans than dry. And it is on this account that very few Chilturue Farmers sow this Grain; for notwithstanding that many of them are Masters of high loamy Soils, yet they are sensible, that if a dry Summer attends their Growth, they must expect the Return of wretched poor Crops, when their Vale-crops will flourish, and grow into great Plenty. In this Case, as well as in Thousands of others, the Wisdom and Goodness of the Almighty God is displayed, in creating a Seed, that is as proper for one Sort of Soil, as it is improper for another; by which, Men are made capable of occupying and improving all Sorts of Land: Which leads me to transcribe Part of what the ingenious Mr. *Trowel* has wrote on the Creation and Government of Plants; viz. “——— As Nature, says he, “ shews itself in nothing more than in the Vegetative World, and her Works, from all Ages, “ have been the Admiration of most Persons, be “ they Philosophers, or any other of the Learned, “ of whatsoever Degree, who have bent their “ Study to find the hidden Meanders, by which “ she

“ hath allotted ; and all receive their Nourishment
“ from the same Mother (Earth). Who can con-
“ template on this, and not adore the Author of
“ these great Works ?” But of this more hereafter.
And now to return to my present Subject, of writing
on Pea and Bean-crops for the Month of *July*,
1744. I have further to add, that Peas, in loamy
Chilturne Soils, even in dry Summers, become
plentiful Crops ; because this Grain grows on Stalks,
that, when they arrive to a burdensome Length,
fall down, and leave their erected Growth for an
horizontal one ; by which they receive the Rains
and Dews in great Plenty, and lodge them securely
for a long time afterwards, by their Cover ; where-
by the Earth retains a sufficient Moisture in dry
Seasons, to propagate and nourish their Growth ;
when the Crops of Beans, by growing in an upright
Posture, give the Sun and Air so much Room to
shine and blow between their Stalks, as sometimes
to dry their Earth, check their Growth, and hinder
their being able to perfect their Blossoms and Pods.
The Effect of this was visible in this Month, by
the Shortness of the Bean-stalks, and the few and
imperfect Pods they bore. The same also was the
Case of those Bean-crops, where the yellow Curlock
grew in Plenty ; for this Summer this Weed kept
Company with Bean-crops to the last : And though
the Curlock shaded their Roots, it drew and
employed so much of the Earth’s Goodness in its
Nourishment, as to rob the Bean-roots, and cripple
their Growth. But those who sowed their Beans
and Peas out of the Hopper of the Three-wheel
Drill-plough, come off much better ; for by this
famous Instrument, the Peas and Beans dropt regu-
larly into Drills, at such a certain Depth and Breadth,
that they could not be buried : And because the
Earth of itself falls directly in upon them as a
Cover, and a Manure, or Dressing, in so light a
Manner,

Manner, as give their tender infant Blades, or Stalks, an easy Passage into the Air : And it was by such a Cover, that the Pea and Bean-roots were secured very much from the Damage of Drougths this Summer. I remember a Sight that happened in my Way, about the 25th of *May* last, 1744. above forty Miles from *Gaddeſden* ; where I beheld, with great Pleasure, a Field of five Acres of Ground, ſown with a noble large white Pea, out of the Hopper of the Three-wheel Drill-plough, that were at that Time near Knee-high ; and whose Roots were ſo well covered with Earth, by a particular new-invented Horſebreak, that not a Weed was then to be ſeen, in the two feet Intervals ; which ſo well help'd to forward the Growth of theſe forward large Sorts of profitable white Peas, and increaſed their Bulk, as to cauſe them to yield vaſt Quantities ; and fitted them either for an early Gathering as Peſcods, or a green Crop ; or for ſuch an early-ripe Crop, as would give the Owner an Opportunity to ſow Turnep-feed time enough to grow into large Roots before Winter ; for the Soil of this Field was a gravelly Loam ; and ſo well ſituated, that the Ground lay neither too dry, nor too wet ; therefore, if he thought fit, he might have drawn or fed off the Turneps, with Sheep, Cows, or Oxen, before it was too late to ſet a Wheat-crop on the ſame Ground. Theſe are a few of the Benefits that accrue by the Uſe of the Drill-plough, and very cheap new-invented Sort of Horſe-break ; and which, if Thouſands were rightly apprized of their profitable Uſes, I don't doubt but they would have them with all Expedition, with this new-discovered large white Pea, that is as yet unknown, I am apt to believe, to all the Farmers in *Hertfordſhire* ; for this particular Sort of Horſe-break will looſen all, or moſt of the interval Earth, kill and prevent the

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the Growth of all Weeds, and cover the Roots of Peas or Beans with so much Earth, that it will become an extraordinary fertile Dressing to their Crop, when the Rains have wash'd down its Salts on their Roots, and prevent the Damage of Droughts; which Work it will perform with the Help of two Horses in Length, in an exquisite, clean, and safe Manner, without hurting the Pea or Bean-stalks, as Hoe-ploughs are very apt to do; and yet do more Work in one Day than ten Men can, and by far much cleaner, and more effectual. In short, this latest improved Horse-break is so artfully contrived, that it contains different Sorts of Iron-works, and serves for the several Uses of loosening the Surface of the Earth, killing and preventing the Growth of Weeds, and casting up and laying large Quantities of Mould on the Roots of Peas and Beans, at a second Operation, or Hoeing, in *May* or *June*, to Admiration. This has been the one Thing much studied, and wish'd for, for many Years past, by Thousands of Farmers, because of the vast Expence that attends hand-hoeing Ground; which commonly is such hard and tedious Labour to Men, especially in dry Seasons, and crusty Earths, that they cannot do more than very little in a Day. A Rood of gravelly Land is enough, when its Surface lies close and hard, to employ two Men a whole Day, if not more, to clean it to such a Depth, as is sufficient for extirpating the present Weeds, and preventing the Growth of others for some time. But, in some surly stiff Earths, Men cannot afford, for common Wages, to bestow so much Time and Labour, to go so deep with their Hand hoes, as to destroy the Roots of all Weeds: If they did in such Ground, a Rood of it would, I am sure, employ six Men one whole Day; which brings me to observe,

C H A P. V.

HOW a great Farmer was forced to leave off hand hoeing his Pea-crops, because of the great Expence that attended such Labour. — The Farmer I am here writing of, was accounted as good an Husbandman as any in *Hertfordshire*, for managing a large inclosed Farm, that he rented in our *Chilturne* Country, for three hundred Pounds a Year. Among the rest of his Management, his Way was to sow his *Cobham* Hog-peas in every third Furrow, by straining or spraining them out of a Man's Hand after the Plough, and covering them by throwing or turning down the next Furrow of Earth on them, and so another; which left an Interval, or Interspace, of about two Feet, between every Row of Peas: Then he harrowed all the Ground plain, and afterwards hoed the Intervals twice with Hand-hoes; for which he gave the Labourers about eight Shillings an Acre. But so it happened, that as most of this Farmer's Ground was a gravelly Loam, and so hard in some dry Seasons, that the Men did not hoe and clean the Ground to his Purpose; this, with the great Expence for the same, made him weary of that Way of proceeding; and he left it off, for sowing his Peas in the old and common Way of sowing them. But had this Farmer known how much Charge the excellent Three-wheel Drill-plough, and this Horse-break, would have saved him, and increased his Profits, I don't doubt but he would have had them, if he had been obliged to have sent for them at Hundreds of Miles Distance; because they would not have only saved the most Part of such Hand-hoeing Expence, but likewise have done the Work (as I have before observed) much more effectually, to his very great Profit.

C H A P. VI.

The Copy of a Letter from an ingenious Gentleman to the Author, concerning the Improvement of his large Farm.

S I R,

June 4. 1744.

I Received your Letter of the 21st of February, by the Perusal of which, I perceive very plainly, that you make a right Judgment of my Case; and at the same time, that you have Generosity enough to decline following my Orders, in sending me a Drill-plough and Horse-break, because you apprehend they will not answer my Interest; and by what I understand of them, I am of the same Opinion, on account of the Quantity of Stones, and some of them very large, mix'd with my Soil; but whenever you have so modell'd and alter'd these Instruments, as to make them fit for my Purpose, I should be glad to receive them from you.

As to the Ploughman, I have offer'd him, I am sensible, Wages enough to induce him, whoever he may be, to serve me with Chearfulness and Industry; which, together with your Skill in the Choice, will, I hope, procure me a very good one. As it is now Time of War, I believe he must come out whenever Convoy offers, let it be sooner or later; and then he will not run much Risque; otherwise may meet with a Disappointment. Mr. M——, upon Receipt of a Line from you, will give you Notice of the Time when Convoys are appointed; to which, every other Consideration with regard to his Embarking, must give Way. For my own Part, I would not choose to have him in the Winter, because that Season of
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the Year is generally so severe in these Parts, and the Ground is so hard crufted by the Frost for many Months together, that there is neither plowing, or sowing, or carting out Dung. All that the Farmers in general do here at that Season, is to feed their Stock, and carry their Produce to Market ; unless such as are provident enough to sow a sufficient Quantity of Hemp and Flax, to keep their Hands employed ; for as to Corn, there is very little Threshing-work in this Province, very few raising more than for their own Use, and some not even that ; for one Hundred of Hay will usually buy a Bushel of Corn ; and the former, you know, is much easier raised than the latter. Throughout the Country they use Maize instead of Wheat, but the chief Towns are supplied with Wheat from the neighbouring and more Southern Provinces. Barley and Rye indeed are sown in some Plenty, but not enough for the Home Consumption. I should be obliged to you for some of the Barley you mention, for I have a four Piece of low Ground, which is now in Grass of about twelve Acres, but produces very poorly, for want of being turn'd up and sweeten'd. Would you advise me to crop it with Barley the first Time, or with Rape, or Cole-seed ? The Land is rich ; has formerly had a considerable Quantity of Sea-sand and Ore-weed laid upon it ; but is now overgrown, in some measure, with Rushes, Water-lilies, and other Weeds ; is very wet and poachy in the Spring, but grows hard and dry in the Summer, and continues so till the Autumn-rains set in, which, in these Parts, is seldom before the Beginning of *October* ; for as the Winters are very cold and clear, so the Summers are often dry, and very hot ; the Rains descend in Floods, and are soon over, insomuch that, for twelve Months together, you shall scarce see two successive rainy or snowy Days. I have mention'd

the Climate in this particular Manner, because I esteem it more like the Northern and North-east Parts of *England*, than the Southern and Western Parts. Whether, therefore, you will send me a Ploughman from the North, South, or West of *England*, I shall leave to your good Judgment, form'd from a Comparison of both Climates together, and from the Knowledge you have where the most skilful and laborious Husbandmen are to be found. Skill and Industry are indispensable Qualities: The Country where a Man is bred is but a second Consideration.

A Dairy-maid that is so complete as you mention, will be very acceptable to me, especially as the Farmers here in general are poor Managers of a Dairy. As to the Utensils, upon Inquiry, I find they make them all here tolerably well, except the square Wooden Cooler, lin'd with Lead, a Model of which, with the Frame, I shall be glad to have, with the due Proportion preserved, in order to form my Coolers by it; for these being very bulky Things, and Freight to this Place excessive dear, it would by no means answer the Expence to transport them hither. If there be any new Utensil, or new Form of an old one, which you have not mentioned in your Monthly Book, pray let me have a Model of that also.

As to the draining of my Land, if Stones alone, without Bushes, would do, I have enough of them; but I have not a Bush upon the Island, nor can I get any but what is dear: However, as I have not a great deal of this Work, and my moistest Land, except the flat Piece I have already mentioned, lies upon a Declivity, and besides springy, I shall be at the Charge of draining, following the Directions you have given in your Books, unless you advise me to the contrary, or to some other Way. You will wonder, perhaps, that in a Tract of several

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hundred

hundred Acres, there is not a Bush standing ; but you must know, that the People here do not plant Quick-fets, their Fences being chiefly Stone-wall, or Posts and Rails, both which serve to clear their Land of Stone and Wood ; of which last Article, there is not now enough left about ———, either for Shade or Shelter ; so that the Farmers will soon be obliged to cover their Land again, which they had formerly so injudiciously stripp'd ; but this reaches only a little Way into the Country, and cannot generally be the Case for many Centuries to come.

My Marsh-land lies so open to the Sea, and the North-east Wind drives so furiously sometimes upon it, that I despair of ever reducing it to fresh Meadow, or Pasture, at any rate, much less so as to answer the Expence. The salt Hay is an excellent Fodder in the Winter, to keep Creatures alive in this cold Climate : It is given to the Cattle, spread lightly upon the Ground ; what they do not eat, by its salt Quality, nourishes and warms the Roots of the Grass, and answers the Purpose of Manure to such a Degree, that some Persons here talk so largely, as to say it is worth ten Shillings Sterling a Load, for that Use only. The greatest Improvement for my Salt-marsh, that occurs to my little Experience, will be the draining it ; for where the salt Water lies, the Ground is quite bare, but soon gains a Sward when it is carried off ; and the whole Marsh in general bears the greater Burden for being drain'd. This is a Work I have begun, but digging by Hand goes on slowly. If I could get your ingenious Thoughts to work, to contrive an Instrument, with Cattle or Horses, at once to cut a Trench, about a Foot and a half, or two Foot in Width, and a Foot deep, it would be of great Use to me. The Marsh will bear the Tread of an Ox, and cuts like Soap in some Places, to four Foot in

Depth. The Roots of the Grass shoot two Foot into the Ground, but with very small Fibres ; and there is not a Stone, or any Sand, to blunt or interrupt the Edge of any Instrument. Would it be impracticable to form something of the Plough-kind, with a Couple of Iron Cheeks, sharp and deep enough to cut a Foot and a half, or a Foot perpendicular, into the Ground, and at the same Time, a Foot and a half, or two Foot wide ? Behind these Cheeks, a Plate, I conceive, might be fix'd exactly answerable to the Width of the Cheeks (like that I think you have described in your Works for paring Ant-hills, or Mole-hills) to cut the Turf horizontally, with a Hole to let the Turf through, as the Instrument passes. Such a Contrivance as this, with two or three Yoke of Oxen, would do more Work of this kind in a Day, than twenty Men, I believe I may say forty, according to my poor Conception of the Matter ; but, having a Head very little turn'd to Mechanics, I cannot pretend to say how far any Instrument of this sort may be reduced to Practice. If you comprehend my Meaning, you, who are accusom'd to turn your Thoughts this Way, will, at one Glance, make a right Judgment of it, and tell me what may be depended on. My Ditches next the Upland, I make five Foot wide, and two Foot deep, and with a Bank ; they serve to fence the Marsh off ; but the Cross-drains, I apprehend, need not be wider or deeper than a Foot, or a Foot and a half, because they are only of Use to carry the Water into the main Ditches, or into the Creeks, naturally made by the Sea. Now I have mentioned the Creeks, I cannot help informing you, that the Mud that comes out of them, laid up in Heaps, and mouldered by the Frost, and afterwards spread upon the Land, either for Tillage, Meadow, or Pasture, is an excellent Manure, without any other Mixture ; as
appears

appears by the Trial which some of my Neighbours have made of it, upon such Sort of Land as mine.

If, after what I have said to you in this Letter, you think the Tool you have mentioned for supplying the Place of the Wire-screen, or any other Instrument, will be of Use to me, I shall entirely confide in you; and you may send it to Mr. —, to be conveyed to me: You may also, if you please, inclose to me that Secret for destroying Insects, though we do not sow Turneps in this Country, except for the Table; the Frosts generally setting in about *November*, and continuing to the End of *March*, so hard, that neither Turneps or Carrots will remain sound in the Earth; and for this Reason, I can scarce believe that Coleworts will stand over the Winter, so as to be of any Use; otherwise they would greatly help us, in feeding our Cattle, and suckling our Lambs: I say, considering the Frosts here, this Secret will lose great Part of its Value; but as my Garden may reap the Benefit of it, and as I think you deserve much greater Encouragement than this for the Service you have done, and continue to do, to the Farming Interest, and in that to the Commonwealth, I shall freely throw in my Mite towards defraying the great Expence of your Discoveries.

I propose to sow five Acres of Lucern-seed next Year; and therefore I should be obliged to you for your Judgment in the Choice of some of that which is exceeding good. There was some formerly sown here amongst Corn; but it did not come up, except upon the Edge of the Grass-balk, where I suppose the Corn did not choak it, and where the frequent Turnings up of the Land nourish'd its Roots. Some few Roots of this remain still, and push out strongly; so that I am in Hopes, if I drill in the Seed, and go through the Spaces
some-

sometimes with the Plough, or Horse-break, it may stand the Winter very well.

I shall have mentioned to you every Thing material that I can think of at present, when I have told you, that there is scarcely an Acre of Land upon my Island, but that will bear Hemp, especially with the Help of the Fold, or perhaps the Creek-mud, either mixt or unmixt, which I have not yet tried. I have now, while I am writing, under my Eye a small Patch of Hemp, where the Ground was well folded, and where Flax was sown last Year, that was plowed, sowed, and harrowed in all the same Day, *viz.* on the 26th of *April* last; and it is now from two and a half, to three Foot above Ground, as thick as Wheat, and the Stalk as big as a Tobacco-pipe. I am, Sir,

Your very humble Servant.

P. S. August, 1744. The inclosed Letter has lain by me a long time, for want of a proper Opportunity: I now desire you will suspend the Execution of my Directions for sending out a Ploughman and Dairy-maid, designing to make use of two such Servants here, of whom I have great Characters. If they will answer, I shall save a considerable Expence: In other respects be pleased to conform to what I have within written. I should also be glad of the following Particulars; *viz.*

A <i>Dutch</i> Hoe for destroying Weeds:	} With Direc- tions how they are to be used.
An Earthen Iron for the same Use:	
A Bunking-plough, with a long and broad Knife:	

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The Author's Answer to the foregoing Letter.

How Lucern-seed may be sown in marsh and stony Lands.

S I R,

— I Received your Letter, with a Postscript, dated the 4th of *June* 1744. and the 2d of *August* 1744. wherein you are pleased to commend my Judgment and Generosity, in giving you to understand, that a Drill-plough will not suit your marshy, stiff, and stony Soils. I repeat my Opinion, because your Marsh-ground (unless it is plow'd in very dry Seasons, and can thereby be reduced into a fine Tilth) will not agree with the Husbandry of the Drill-plough, nor will your stony Ground, by reason a large Stone is apt to turn this narrow Plough out of its Work, and then the Labour will be obstructed. So the clotty Earth of Marshes is apt to plow up stiff, and in Blocks; and then the Seed cannot drop into a regular Furrow, nor enjoy the great Benefit of the fine pulverized Mould, that should fall in of itself upon the Seed, immediately after it is in the Drill, and there become its Shelter and Protector against the Beaks of Fowls, the Incidents of Weather, and such a fertile nourishing Dressing as may supply the Use of rotten Dung, or Soot, or Oil-cake Powder, or any other Manure; which it will certainly do exquisitely well, as insipid as this may appear to some, who never saw nor experienced it. On this Account, I would further observe to you, that notwithstanding what I have wrote against the Use of the Drill-plough in marsh and stony Lands, I have known such Lands brought into a Capacity of being improved by the Drill-plough, in sowing
them

them with Lucern-feed, thus: — A Marsh, through which a fresh River ran, bred Rushes, Couch-grass, and other Weeds, to that Degree, as prevented the Owner making a Profit of Grass or Hay from the same. This provoked the Gentleman to attempt the Improvement of it with Lucern-feed; in order to which, in a dry Time, he plowed the same Ground, and repeated the same Work, till he partly kill'd the Rush and Weeds. Then he sowed it thick with Horse-beans, broadcast, and had in Return a vast Crop; and this Piece of Husbandry proved just right, for killing of Weeds, and bringing this stiff raw Earth into an hollow Fineness; for the Crop of Beans, by growing into a great Bulk, got the better of the Weeds, and prevented their Growth: When the Beans were got off, and as soon as they had Time, the same Land was plowed up, in order to lie and sweeten by the Frosts; and by repeating the plowing, the Earth became so fine, that they drill'd in Lucern-feed in *March*, at twelve Inches Distance the Drills; which being directly covered by loose Mould, the Lucern thrived apace, and became a good Crop the same Year, with the Assistance of two several Hoeings. As to the stony Land, if the Stones are not too big, and lie too thick, they may be gathered off, at least so many of them, as will fit the same, to admit of narrow Drills, and a fine Earth to fall in upon the Seed. But for a further Explanation of this Article, I intend to write largely on it, in the Months of *November* and *March*.

Sowing Wheat in stony or marsh Land. — About two Miles Distance from my House there are several inclosed Fields, so full of flinty Stones, that in Plowing-time there is but little Mould to be seen; yet in these Fields there are often seen good Crops of Wheat, Barley, Peas, Thetches, and artificial Grass; for

for obtaining of which, they plow it often, to keep down the Breed of Weeds; and bring the Ground into as fine a Tilth as they can by several Plowings in the Summer-time; and sow their Wheat-seed in Two-bout Ridge-lands, or, as we call it, in four-thorough Stitches; and it is surprising in this Operation, to see Stones, as big as a Man's Fist, turned up by our Two-wheel piked Share-plough, and made to cover the Wheat-seed as it is thrown out of a Man's Hand, in the straining or spraining Way. But so it is, that our Ploughmen perform this Work in such stony Land to a Nicety; and it generally produces plentiful Crops when it is first well dung'd, or folded, or otherwise dress'd and manur'd, and sown with a proper Wheat-seed, suitable to the Soil: Then it is, that thirty or more Bushels may be hoped for in Return from each Acre of Land; I say, a proper Wheat-seed, for on this depends great Part of the Success. To sow a red Lammas-wheat on a Chalk, Gravel, or Sand, would be as wrong, as it would be right to sow the same Soil with a pirky Wheat-seed, or a yellow Lammas: Which leads me to observe to you

Several Sorts of Wheats. ——— There are no less than eight excellent Sorts of Wheat-seeds that I can help Gentlemen to, if they will be at the Charge of my collecting them; four of which Sorts I must fetch at some Distance; the other four are at Home: And this Charge they have the less Reason to grudge, because when once a Person is Master of a right Sort, he may keep it in the Country he lives in, by shifting and sowing it in proper Soils: And I do farther assert, that where a Gentleman occupies a large Farm, that has different Soils in it, he is more than ordinarily obliged to be Master of some or all of these several Sorts of Wheats; for it is certain one Sort will

thrive and prosper in a particular Soil, when another will not; and is perhaps of such Importance for such a Person to be possess'd of, that, for want of such Choice, he may lose Hundreds a Year. For Example: I know a Sort of Wheat that must not be sown in *England* till *March*; and then it must be done in a Sand, or other light Soil, because of its tender Nature; but when this Wheat-feed has its requisite Managements, it will make great Returns at Harvest, and become a delicate saleable Market Wheat. I know of another Sort, that if it is sown later than *October*, is very apt to receive the Stroke, or Blight. Another will yield great Quantities in such an Earth, when a different Sort will not yield half so much. Again, where one Sort will blight, another will not. It was not far off *Saffron-walden* in *Essex*, when, in my Travels, I met with a Farmer at Plough; and in Discourse he told me, That the Ground he was then plowing, caused his Wheat to strike, or blight, more or less, every time it was sowed with Wheat; and so will many other Earths and Situations occasion the same as this did; which I took to be owing to a Row of high Trees, and a Declivity of Ground contiguous thereto. The Trees lodged and retain'd Fogs, and kept off the Freedom of Airs; and the low Situation of the Land added to the Misfortune. Now this same Farmer had no Notion of sowing a Sort of Wheat that would not blight in such Ground: If he had, I don't in the least doubt but he would have had the Seed, if it cost him an extraordinary Expence; for it is the same Charge to plow, dress, and sow a right Sort of Wheat, as a wrong Sort; and it is always my Way, when I send a Gentleman any Wheat-feed, to send proper Directions for its Management; lest, sowing the same in a wrong Soil, and at a wrong Time of the Year, a Miscarriage happens. This is what
highly

highly concerns your Consideration, as you are Master of, and an Occupier of, a very large Tract of Ground ; and not only on account of Wheat-seed, but likewise of many others, particularly of Barley.

Sprat-barley. ——— The Sort of Barley that you have wrote to me for, I have since very luckily bought of the only Man that had the best Sort in our Parts ; for though I and several sowed this Sprat-barley for the first Time in our Country in 1744, yet this Farmer, having a whitish maumy Soil, got in his Crop very early, before the Rains fell this Harvest, and damaged most of the Barley throughout *England* ; but his had a plump, white, and dry Body ; which made me buy four Bushels of it, that I herewith send you ; and would have sent you more, had not Mr. —, as well as yourself, given me a Caution of being careful of increasing the Charge of Freight ; for I am well assured, that this Sprat-barley will be of prodigious Service to you, because, as you have a great deal of rich marsh and stiff Land, this Sort is the properest of all Barley-seeds, for sowing the same with ; for let the Soil be as rich as possible, if it is stiffish, it will produce a strong Straw, and a large full-kerned Ear, that will always grow and stand erect to the last ; when our common Barley, by being a full-large Crop, will fall down, and sometimes rot on the Ground, before it is mowed, and yield a most small Kernel. It is this Sort of Barley that is most valued by Distillers, for producing the greatest Quantity of Spirits, and is no less profitable to Brewers, for making a Malt that yields the greatest Length of Worts : The Stalk and Chaff indeed are coarsish, but the Quality and Quantity of this Grain largely compensate for it. In short, there have been eleven Quarters of this Barley grown on one Acre of Marsh-ground :

and even the Crop this grew in, tho' it came off a gravelly, loamy, dry Soil, yields so well, that a Man can thresh eleven Bushels of it in one Day, as the Thresher himself assured me. Value therefore this Seed, and propagate it as fast as you can; for it is a very valuable Sort. In your Marsh-ground, if you sow it naked, you should sow four Bushels on one Acre: Or you may first steep the Seed, and lime it, according to the Directions of my Receipt sent you herewith.

Lady-finger Grass-seed. ——— The Parcel of this Seed that I delivered to Mr. ———, where, if you get a good Crop of Grass from it, will feed all Sorts of Cattle fat in a little Time, make the sweetest of Fresh Butter and Cheese, and give the last two the finest golden Colour. It is justly deemed the most delicate Grass that grows in *England*, and therefore is of such Value, that no Gentleman, who has a Conveniency to sow and feed it, should be without it. From a small Parcel of this Seed may be bred large Quantities of the same, if the Seed is sown in a fine rich Mould, and harrowed in, not with a common Harrow, but with a Bush-harrow; that is to say, a Hurdle drawn through with Bushes, and then drawn along by a single Horse; for this Seed is so small, that the iron Tines of a common Harrow would bury it. Two, four, or six Pounds Weight of this Seed, may sow one Acre of Ground; and when it has well taken with the same, it may be kept under Grass as a Meadow for ever.

The Banking-plough. ——— Herewith I send you a Banking-plough, or a Plough to cut up Ant-hills, or Mole-banks, according to your Order. You will find it a most serviceable Instrument, by performing more Work with it in one Day, than twenty Men can do at the same time; and this with two, three, or four Horses, as the Work is lighter
or

or heavier. This is a little Money well laid out, not only because you have here sent you the most complete and cheap Sort of Banking-plough now in Use, but because you may, in your distant Country, have more made by it, so as never to want a second Occasion of sending for one to *England*; and which I am very glad I am the first and sole Person that ever let you into this valuable Secret, and furnish'd your Country with the first Plough of this Kind, as well as I have done the Three-wheel Drill-plough, Horse-break, and Double-plough, in other Parts of *America*; and I don't doubt but there is a great Want of this Sort of Plough in many Parts of *North America*, as well as there is at this Time in many Parts of *England*, where Thousands of Acres of Meadow-land lie, infested with these prejudicial Excrescencies. But so bigotted are great Numbers of Persons to Custom, that for this very Reason they won't be persuaded to alter a worse for a better, in this and many other Branches of Agriculture; which illustrates your Conduct, and makes it appear the brighter, in that you, who live at Thousands of Miles Distance from *England*, took this serviceable Hint from my Books, and directly sent to me for the Instruments; while others, as it were at Home, live and go on in a presumptive Neglect of so good a Piece of Husbandry; for I dare be bold to aver, that one Acre of clean Meadow-ground will produce, one Year with another, more good Grass than two, three, or four Acres will, where these Banks are large, and stand thick.

The Trenching-plough. ——— This Plough that you wrote to me for, is made to go without Wheels; and yet is too heavy and unwieldy an Instrument to send you, or any Person else, that lives but fifty Miles Distance from me; and therefore I have put into Mr. M——'s Possession, for your Use, the
 2 Model

Model of it made very ingeniously by the Plough-maker and Smith; and herewith I have sent you the particular Dimensions of the Original. It is a most valuable Plough, because it cuts a Drain, or Trench, of one Foot or more wide, and one Foot deep, by its two Coulters and Share, at one Draught, of two or four Horses; for the two Coulters cut the Grass-turf and Under-earth on both Sides, as they are drawn along; and the Share, and broad Board, in their Working, throw all the Mould and Turf so cut out of their Place. By the Use of this Plough, much Money, Labour, and Time have been saved; because it will perform more Work in one Day, than twenty Men can do. What a valuable Instrument then must this be? Surely, if Gentlemen that are in want of such a Plough, were apprised of its Worth, they would send to me for one, or the Model of it, that they may get one made by it, for draining their wet Arable or Meadow-grounds, and thereby rendering them much more profitable than they are at present. This famous Plough is so ingeniously contrived, that it scoops and flings the Earth out of the Trench, as it goes along, so clean, that there needs no Spade to follow for cutting and casting out the Remains, where the Drain is made deep and broad enough at once drawing the Plough thorough; and it has this Conveniency belonging to it besides, that if a Person wants a wider Drain or Trench, than one of a Foot broad, this Plough may be easily made to do it; for the Coulters are so ordered, as to be set wider or narrower, to give a Person an Opportunity for this very Purpose. This Plough has also a third Conveniency belonging to it: If a Person wants a wider Trench, Drain, or Gutter, than this Plough can make at one Draught of the Horses, he may perform the same by drawing the Plough forwards and backwards more than once; by which means he
may

may make a Trench at a considerable Breadth, and by this save, in a large Tract of Ground, much Labour, Time, and Money. On these Accounts it is, that this excellent Plough may be employed to do great Service in Vale, Marsh, Boggy, or Fenny-grounds, where it will cut Gutters, or Drains, in the cheapest and quickest Manner, at a Foot, or fifteen Inches deep. But in case a Drain, Gutter, or Trench, must be made at a greater Depth in these, or any other Sort of Earth, than this Plough can possibly do by the Draught of Horses, it will, however, make a Beginning of the Work sooner, and a great deal cheaper, than Men can do it with Spades : And it is for these valuable Considerations, that the Vale-farmers, of more than one Parish that I know of, join in being at a proportionable Charge, according to the Rent of their Farms, for purchasing one of these Trenching-ploughs, to cut Drains in their Grass-head Lands, for carrying off the Waters that might otherwise lie on their ploughed Ridge-lands, and damage or perish the Corn that grows on them. The same for carrying Waters from off Meadow-grounds : This Trenching-plough is of prodigious Service to clear them of this Incumbrance. In the Vale of ———, there are many large Meadows, that are so liable to be overflowed with Water on great Rains, that they are forced to cut Drains, or Gutters, at almost every Pole Distance, to prevent Waters lying and stagnating on their Grass ; otherwise the Farmers could not pay their Rents, because their Grass and Hay in some Weather would be utterly spoiled ; and at other times, if Waters were not carried off with some Expedition, they would lie so long as to breed Moss, that would choak and overcome the Growth of the Grass, and in Time ruin the whole Surface. An Example of this I have been an Eye-witness of, even in a Five-acre

acre Meadow, that lay in the Chilturue Country, where it lay not in such a wet Situation as some Vale, Marsh, or Fenny-grounds do; and yet for want of Drains to carry off Waters in due Time, the Moss got such a Head, as to be Ankle-deep; and kill'd the natural Grass to such a Degree, that there was not more Hay got off all this Ground in one whole Summer, than half a Cart-load. And yet, what is more monstrous still, this Neglect was committed in a Meadow, thought to be as good Land as any is in *Hertfordshire*; as is evident from the great Reformation a better Husbandman, the Successor, has since made in the same; who has so well clear'd this Meadow of Ant-hills, Mole-banks, and stagnating Waters, that it has produced as good Crops as any other. It is such Waters, for want of Drains, that breed Flags, Rushes, and four Titch, or Couch-grass, as is obvious to the Sight of many passant Travellers; which might with a little Expence, by the Help of this Trenching-plough, &c. be cured, and the like Damage afterwards prevented. Whoever then neglects this great Improvement, for want of such a cheap Trenching-plough, I think may be justly said to *lose a Hog for want of a Halspennyworth of Tar*. As to the Expence of the Model, I charge you but five Shillings for all the Wood and Iron-work of the same; and which, for its safe Carriage, I send it you in a Box of Deal, that I got made purposely for it. Now as this Model is very plainly made, any ordinary Workmen may make a complete Trenching-plough by it, at a small Expence; because there is but little Iron belonging to it; and the Wood-work, though large, needs not a curious Hand to work it. But I cannot conclude what I have to write on some Sort of Boggy, Marsh, Fenny, and Vale-lands, in this Chapter, by reason there is another
Sort

Sort of Improvement belonging to them, on account of a certain Instrument we call a Marsh-plough, which I shall describe as follows ; viz.

The Marsh, or Bog-plough. ——— As you are an Owner and Occupier of Marsh-ground, I can inform you of a proper Sort of Plough to be made Use of in the same. There is in several Marshes, that lie within fifty Miles of my House, a certain Sort of Plough, constantly employed for working this Earth, and preparing it for the Reception of divers Sorts of Grain, which it does exquisitely well; and as Marsh-land lies sometimes in a wet Condition, this Plough is made with two Wheels, and so ingeniously contrived, that it will do a great deal of Work in one Day, either with Oxen or Horses. It is not a heavy Plough, considering the strong Work it is to perform ; but is one that I think well deserves your Notice and Purchasing, because on a right Instrument may depend infinite Profit : But the Copy of the following Letter will further illustrate this Matter.

C H A P. VII.

The Copy of a Letter for sending a proper Plough into Ireland, to plow drained Bogs.

S I R,

August 11. 1744.

I Have by last Post received from my Friend his Answer to your Letters, which you favour'd me with upon the Subject of the Plough for *Irish* Bogs ; and contains his Reasoning in favour of the Wheel-plough, which he thinks will cut the Sod or Surface thinner than any of the other Ploughs mentioned, and not gather much Dirt ; which he is under no Apprehensions of, because

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the Nature of that Soil is so stiff, and link'd together, that it never can be drained dry enough to be dried fit for burning in any one Summer. I believe, if ever he comes to plow this Sort of Soil a second time, your Objection must be complied with, and the Sort you recommend, besides, must be had. In the mean time, please to order a Wheel-plough, that will best answer my Frind's Intentions, and let it be sent to Mr. ———, on *Ormond Quay, Dublin*; the Charge of which you say will be ———. The Moment you advise me all Things are done, and will please to direct me in the Manner it shall be done, I will pay the above Sum to any Person you direct in *London*. I hope to hear from you as soon as every thing is ordered; and am, Sir,

Yours, &c.

Of drying the Surface-earth of Bog-lands, so as to fit it for burning to Ashes as a Manure in a little Time. ——— By the Copy of this Letter you may perceive Part of the Improvements that have been, within these twenty Years last past, made in Bog-lands, that formerly lay as waste Ground, to the Quantity of many Thousands of Acres, in the Kingdom of *Ireland*; and proved, in its uncultivated Condition, such dangerous Places to Man and Beast, that many have been swallowed up in them: Whereas, by the Contrivance of some ingenious Persons, they have since been drained of their stagnating Waters, so as to become fertile Earths, not only for being frequently plowed and sowed, and producing several Sorts of Crops of Grain, Hops, and other Annuals, but also for suffering the Planting of Trees and Shrubs in the same, and carrying forward their Growth with great Expedition. They have also, by this new and excellent Piece of Husbandry, brought their quaggy Bog-earth into such a dry and close Texture of Parts, that in most Places it

will

will admit of Cart and Horses going over it; which sufficiently shews how greatly Art helps Nature, by reducing such wild, austere, and dangerous Ground, into a pliable, fine, fertile, and sound Earth. But I find by this Gentleman's Letter to me, that they are yet at a Loss how to get their wild Sod or Surface dry, in the Time of one Summer. This I am a little surpris'd at, because I am very sensible there are among the *Irish* Gentlemen, some very ingenious Virtuoso's, who take Delight in applying themselves to the Study and Practice of Improvements in Agriculture: And indeed it must be own'd, that they have done Wonders within the Space of a very few Years, in finding out, by Trials and Experiments, many profitable Matters that never were known to their Forefathers, and which have advanced the Interest of their Country to a very great Degree: Witness their prodigious Improvements in their Linen Manufacture, that they have lately brought to such exquisite Perfection, as to vie with *Holland* for making that Sort of fine Linen, and with *France* for Cambricks; also in the Propagation of Hops, which, till lately, was an Art unknown to them; for, by their Ignorance of it, they were oblig'd to have them from *England*, and other Parts, as believing their Ground and Climate would not produce the like. But Trials and repeated Experiments have proved the contrary, and inform'd them, that they can; and they have rais'd many Plantations, of as good Hops as are in *England*, or elsewhere. So in brewing Malt Liquors, managing Cyder, and other Things in the Art of Husbandry, they have, and are constantly endeavouring to make further Advances, in bringing them to a greater Perfection. Now I know a certain Method of Plowing (just found out), by which a great deal of Ground may be plow'd in a little time, and so

laid, that it shall dry in a Month or six Weeks Time (if the Weather is propitious), fit for burning into Ashes; and thus will save an Owner of Bog-lands a great deal of Time and Expence. But this is so new a Discovery, that I know at this time but two Persons that ever yet practised it; one of which is myself; and is not only necessary for speedily drying of such wet Dung-sod, or Surface, but also for preparing other, and common plow'd Land, by killing Weeds, and making it fine and ready for sowing it with Grain: The Particulars of which Operation I intend to make public in my Monthly Book for *November*, because it is most fitting to be done in that Month, when Wheat or Barley-stubble are to be plowed, to bring the Earth into a Fineness and Sweetness, the better to receive the Seed of Peas, Oats, and Grass-seeds, &c. and bring on their Growth to the greater Perfection. This is not a chimerical Notion, or a Matter borrowed from the Books of others; nor do I make this known as an Act of Pride, for giving myself an Opportunity to find Fault with, and lash other Authors, because they knew nothing of such an excellent Method of Plowing: No, I renounce every Branch of such Vice; and would rather become an Advocate for their Faults, as I am of Opinion, that that Author is very excuseable, who has published one new serviceable Secret, for the Repetition of two or three borrowed ones. And that this is a perfect new Mode of Plowing, and is done in about half the Time as common broad Land-plowing is done, any Person may satisfy himself of the Truth of it, if he will come to my House at a proper Time of Year, and view the Work in or more of my Fields; for it was but in *November* 1744. that the first of this Invention was ever put in Practice. Or if any Person has a mind to be informed of this by Word of Mouth,

or discourse me upon any Subject of Husbandry, if he will by a Letter, Post-paid, give me timely Notice, I will meet him at any Place in *London*, when other Business calls me there, and give him what Satisfaction lies in my Power.

Of the Hertfordshire Double-plough. — In my Cart that carried your Banking-plough, a Model of the Trenching-plough, and a Sack of Sprat-barley, to *London*, on the 16th of *November* 1744. I also carried in the same a Two-wheel Single-plough, Harness for four Horses, and other Things, that I embarked on board a Coasting-Vessel, for a Person living in the North ; and also a Two-wheel *Hertfordshire* Double-plough, with Wheat and Rape-feed, and other Things, to be sent to a Gentleman who lives in a Foreign Country ; which Sort of Double-plough, in my humble Opinion, you ought to have with you, if it cost you a considerable Expence, because of the great Profit that may be made by its Use ; for this Plough, by a late Invention, is now made to go wider or narrower, by keeping the broad Boards accordingly, whereby it is fitted to plow either broad Lands, or Two-bout Ridges. Some use the Double-plough for both Sorts of Works ; others only for sowing Wheat-feed in Two-bout Lands. I know a Gentleman near me, that sows almost all his Wheat by this Plough, with four Horses, in Two-bout Lands, in most of his gravelly, loamy, and clayey Fields ; and this not only for making the greater Dispatch of the Work in Sowing-time, but also for sowing his Wheat to a better Advantage than any Single-plough can ; and this by reason the last Share of this Double-plough follows the first Share so quick, as prevents the tumbling down of the Earth, and leaving the Seed almost naked in some Places ; which a Single-plough is very apt to do. But the main Convenience of this Double-plough is to do double Work
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in the same time that a Single-plough is employ'd ; which is a vast Advantage, particularly to a Person who occupies a great deal of Land ; and this it certainly very often does with only four Horses, one Ploughman, a Boy, Driver, and a Sower, being the same Number of Horses and Hands that a Single-plough generally requires to work in Sowing of Wheat in this Shape, as well as in most others. But these are not all the Benefits attending the Working of this valuable Double-plough ; for by the great Expedition it makes in Sowing-time, and by the Manner of its working, the Damage of Rains that may fall in such a Season is much prevented ; because this excellent Plough shuts and closes the four Furrows, and finishes the Stitch or Ridge Two-bout Land, at twice being drawn along, which no Single-plough whatsoever can possibly do ; for a Single-plough must go four times where this goes but twice, and by which the Horses may do very great Damage in clotty or wet Grounds ; and the more in wet Weather, when Wheat is sown with them in this Posture ; because their four times going backwards and forwards on the Ridge or Two-bout Land, obliges them to tread the Ground so often and so hard, as to bury much of the Wheat-feed, and consequently do considerable Damage to the Crop. Thus, I hope, I have given you a full Description, in a few Words, of the Work and Advantage of this most serviceable Plough, that in course will be more than ordinary so to you, who are an Owner and Occupier of a whole Island, that contains a great Tract of different Sorts of Land ; and therefore you should, by all means, have one made and sent you by the first Opportunity, to make more by the same Pattern.

The Earthing-iron, or Horse-break, ——— That you write for, goes only by the Name of a Horse-break, because it is made to be drawn by Horses
or

or Oxen, to break the Ground ; for which Purpose it is exceedingly well contrived, not only in this Work, to save the Charge of Mens Labour, but to loosen the Earth, kill and prevent the Growth of Weeds, let in the Sun, Air, and Rain, and mould up the Roots in a better manner than Men can ; and therefore is certainly the most necessary Instrument, next to the Plough and Harrow, of all others in Use with Farmers ; for this Horse-break will perform more Work in one Day, than many Men can possibly do. Its chief Use is to be employ'd between Rows of drilled Horse-beans, or Kidney-beans, or drilled Peas, Turneps, Cabbage, Savoy, or Broccoli Plants, and many other Vegetables, growing in the Drill-mode, and is worth its Weight in Silver for these very Uses ; as being an Instrument that will save a Person Hundreds of Pounds Expence in a few Years, that holds a great Farm, and sows his Wheat and other Seed in the Drill-way ; and were I here to enumerate all the Benefits that appertain to the new-improved Horse-break, it would take up much Paper-room. This Horse-break or Earthing-iron is always drawn by one or two Horses in Length, when it is fix'd by an Iron Swivel to the Two-wheel Carriage of the Three-wheel Drill-plough ; which Plough is taken from off the Carriage, when the Break is to be fix'd to it. And although I have before declared, that the Drill-plough is not fit to be made use of in very stony Land, yet I assure you, that it will work in most other Lands, even in Vale Ridge-lands, to great Profit ; as it was proved for the first time in the Year 1744. in *Ailesbury Vale*, where the drill'd Wheat surpass'd all Wheat sown in the common Way, throughout the whole Parish of *Chedington* ; which lying but four Miles from my House, I am ready to give any Person Satisfaction of the same, on the Spot of Ground, where Wheat is sown every

Year

Year in this Posture ; so that the Drill-plough and this Horse-break is perfectly necessary for you ; and the more, if you have any dry Soils, as undoubtedly you have, as well as wet ones, in such a large Quantity of Land as you hold in your Hands. But I must further inform you, that there is an additional Improvement lately found out, and added to this Horse-break, which will be of great Service to you ; so that it may be said, that here are three Instruments contain'd in one ; for since the former two, there is a third Sort invented, to be put on the Break when one of them is taken off, to serve as Conveniency requires. And I do assure you, that this third Sort is of such Importance, that no Farmer whatsoever ought to be without it, that sows Peas, Beans, Rapes, Cabbages, &c. where the Ground will admit of its Uses ; because it will save a vast Expence of Hand-hoeing, which commonly costs seven, eight, or nine Shillings an Acre in all, to hoe the Ground twice ; and then the Hand-hoe does it so superficially, that little more than the Heads of the Weeds will be broken off ; and serves to make many of them to regrow with the greatest Vigour ; whereas this Instrument, by the Strength of two Horses, will not only destroy both the Roots and Branches of most or all of them, but may be made, besides, with the Help of this new additional Improvement, to gather up, and leave on the Roots of the Peas, Beans, Rapes, Cabbage-plants, &c. as much Mould as is sufficient for their Nourishment and Shade.

The Cleansing-tool, ——— That you likewise write for, is of great Service to all Farmers who rent Arable-land, and most of all, to those who occupy large Farms ; for with this Tool Wheat and Barley-seed may be so cleansed from the Seeds of Weeds, other Trumpery, and the small underling Kernels of these two Capital Grains, that there may be made to remain

remain only the largest Seed ; for as hardly any Wheat or Barley is brought to Market to be sold, but what has both small and great Kernels in their Sacks, it will pay a Person in almost a tenfold Manner, that lays out his Money on this Instrument. For it is well known to most judicious Farmers, that the largest Seed of any Vegetable produces the largest Stalk, Ear, or Head, whether it be in Grain, Shrubs, or Trees ; a Reason that holds good in Animals as well as Vegetables ; for where the parental Species are of the largest Kind, the Breed is generally in Proportion. Let a Grain of Wheat of the largest Sort, and another of a smaller Sort, be put into the Earth at the same Time, under an equal Advantage, it is most certain the largest Kernel will throw out more Stalks and Ears than the smaller one can ; or if not more Stalks and Ears, those that proceed from the largest Seed will assuredly be the biggest. And if so, what an additional Quantity of Grain must this occasion in a large Farm ? For if one Ear of Wheat or Barley be augmented by this means, only one sixth Part in its Number and Largeness of its Grain, it consequently must cause a considerable Increase, even in one Acre of Ground ; perhaps six, seven, or eight Bushels ; and if the same Advantage holds good, in thirty, forty, or fifty, or more Acres (as it is very likely to do), what a Profit must this produce in one Year, in both Wheat and Barley-crops ! How valuable then must this cheap Tool be, of only half a Guinea Price, to any Person that has large Quantities of Ground to sow with Wheat and Barley, I leave them to form an Estimation of. I know an ingenious great Farmer, that was at thirty Pounds Charge to get a round seven-feet-long Wire-screen, made only to answer both these Purposes. Indeed it would perform more Work in a Day than this can ;

but I question whether it will do its Work cleaner than this much cheaper Tool. But, besides this Wire Hand-sieve, I have a splinter'd one, to answer somewhat the same End. The first has its Wires work'd long-ways, and therefore can discharge the longer Seeds of Weeds, as Darnel, and others ; and also the longer thin Kernels of Wheat and Barley : The other, being work'd in a square Form, nicely discharges the rounder Seeds of Weeds, and which I sell for half a Crown. Both these I send together, for answering this very valuable Piece of Service.

C H A P. VIII.

TH*E Chaff-cutting Engine.* ——— This Engine if you have not in your Part of the World, you should by all means have one sent you, if it cost you fifty Pounds ; because this excellent Machine will earn a great deal of Money in a little Time, in cutting your Straw and Hay into Chaff ; for, without Chaff, I am sure there is no such Thing as feeding Plough or Cart-horses as they ought to be fed. Cut Chaff is a most cheap Feed for making a little Quantity of Oats, or other Corn, go much further in feeding Cattle, than Corn alone will. It will make Beasts drink heartily, and consequently have the better Appetite to their Meat ; helps to dry up Humours ; prevents the Breed of Worms ; and by mixing Oats with Chaff or Beans, the less Corn serves ; and is not only serviceable in this respect, but as it occasions the less Quantity of Corn to be given to an Horse, it makes this mix'd Food the healthier to him ; for if all naked Corn was to be given to an Horse, it would be apt to heat him too much, and breed Farcies, and greasy Heels. It is this famous Engine that consumes
Straw

Straw in the most profitable Manner, and makes an ill-scented Hay sweet ; for by cutting a coarse, rank, and even Hay a little stinking, if it is mix'd with the sweet Chaff of Straw, Cattle will eat it in this Form, when they will not in Hay ; as I and Thousands of others daily experience, when Hay has been damaged by long Rains in the Field. This profitable Engine, if made in a right Manner to the best Advantage, may be so work'd as to cut sixty single, or thirty double Bushels of Chaff in one Day, by one Man, as is now-and-then done by some of our best Chaff-cutters, in a Mixture of Straw and Hay, which they generally cut together. In short, this Engine is kept by most great Farmers in the Southern Parts of *England*, and even by the best Husbands that rent small Farms ; because it has not only these before-mentioned good Properties belonging to it, but it also serves to employ Servants in rainy Days within Doors, when they cannot work without. And when one Man cuts thirty double Bushels of Chaff in one Day, he earns half a Crown ; for with us the Price is one Penny the double Bushel cutting, that is given to those who are Owners of this Tool, and who go about with it to cut Chaff, at those Farmers Houses where the Farmer is one of the lazy, poor, and indolent Sort, and has not one of his own. This most valuable Engine I furnish to any Gentleman at one Guinea the prime Cost, besides Charges of Carriage, when made in the greatest Perfection, by one of the best of Workmen, that lives in the Parish of *Little Gaddesden*.

The Dutch Hand-hoe. ——— *The Dutch Hand-hoe*, that you have sent to me for, is likewise a very necessary, profitable, and very cheap Instrument, as costing but three Shillings and Six-pence in all, for the largest Sort, with its Six-feet-long ashen Handle fixed in it. This Tool was invented for Men

to use both in Fields and Gardens ; in Fields between Drills of Wheat, Barley, Lucern-grass, &c. that are made at twelve Inches asunder ; where, by a Man's pushing it always forward, contrary to the Work of common Hand-hoes, it will do three times the Work in one Day as that does, and will clean the Interval Ground of Weeds in a very neat Manner ; for by the middle hollow Part of this Hoe the Weeds get through, and are left behind, without the Trouble of raking and pulling them from the Part they are hoed from ; as a Man is forced to do in the Use of the old-fashion'd common pull-to Hoe. This *Dutch* Hoe is therefore most conveniently fitted to hoe the Weeds up between the Drills of Wheat, Barley, and Artificial Grass, when they are made at a Foot asunder ; because in this Posture they stand too nigh, and the Rows of Corn and Grass grow too near one another, to admit of the Horse-break's Use ; for in such narrow Intervals, the Horse-break is too wide an Instrument to be drawn along them ; nor would it be a convenient one, if the Wheat, Barley, and Grass, were to grow in Drills at two Feet Distance ; because neither the Horse-break, nor any Hoe-plough, in my humble Opinion, is fit to be drawn near the tender Stalks of green Wheat, Barley, or Grass, lest it bruise, wound, or otherwise damage them ; which I should think it would be very apt to do, not only by striking or rubbing, as it is drawn along, against the green Stalks, but also by turning clotty Earth so near them, as to do them some Harm by bruising them. This Tool is commonly employed twice in a Summer, to free the Interspaces of Weeds between the Drills of Corn and Grass, and for nourishing their Roots ; and indeed it is a surprising pleasant Sight to a Stranger, when he views such an uncommon Prospect of Wheat and Barley, and Artificial Grass, growing in
Fields,

Fields, in the Drill-posture; and this when these Vegetables are in their green as well as ripe Age; in the first, when the Intervals of Ground are in their full open Sight; and in the last, when the high and large Stalks and Ears of the Grain meet so near as to touch one another, on their waving to-and-fro by a brisk Wind. On these Accounts, a Field of drill'd Grain or Grass affords a great Delight and Profit to the Owner, and, I think I may add, Health withal; for as the Winds have here a free Passage between the Rows, the blooming Ears of the Corn, and the purple or yellow Blossoms of the Lucern-grass, yield fragrant and odoriferous Smells. For these several Reasons I would advise you, if you could get any Sort of your Land fine enough, to sow it with Lucern-seed in Drills, and not in the broad-cast Way; for if you do by the last, the Weeds will get up, and cripple its Growth, and overcome it in a few Years; but when this Seed is sown in Drills, at twelve Inches Distance, and the Intervals kept clean by this *Dutch* Hoe, then you will see a fine high-flourishing Crop, that will yield you at Mowing-time a surprising Burden. It is for want of this new sort of Management, that many who have sown Lucern-seed have grown out of Love with it, and slighted it for an unprofitable Grass; whereas I dare affirm it for Truth, that had they sown this excellent Seed (provided it was sound, and of the right Sort) in Drills of fine Earth, out of the Drill-plough, and afterwards given it its due Hoeings by this *Dutch* Hoe, they would be so much in Love with it, as to sow more and more Ground with the same; and therefore I here recommend the Use of the Three-wheel Drill-plough, and this Hand-hoe, the more, for being the choicest Sorts of Instruments for increasing Crops of Wheat, Barley, Lucern-grass, &c. And thereby many may
be

be capacitated to improve poor sandy, and other lean dry Soils, to a prodigious Degree of Profit, and cause them to produce such large Crops of these Vegetables, as will increase Rents to the Landlords, and Revenues to the Crown; and yet make the Farmer's Heart glad, by filling his Pockets with Moneys arising from the Product of such increased large Crops of Grain and Grass; for where these Seeds are sown in Drills, the Roots of the Corn or Grass will not be starved by Droughts and Frosts, as most are whose Seeds are sown, and only harrowed in; and these four last Years have wofully prov'd the Truth of what I here write, and possibly may do the same for Years to come. Who then, that can afford to buy these Instruments, would be without them, if they are Owners of proper Earths for their Uses? Surely none but the covetous, the ignorant, or the poor Farmer!

C H A P. IX.

*O*F sowing Rape-seed in July. — You say, you think neither Coleworts, Turneps, nor Carrots, will over-stand the Severity of your extreme cold Winters: In Answer to which, I will begin with your Objection as to the Coleworts. Rapes, or Cole, or Coleworts, are synonymous Terms for one and the same Vegetable; yet confound the Notion of many Persons in the Judgment of it; for my Part, I know of no Difference in the Species of them. If one ask at a *London* Seed-shop for either Cole or Rape-seed, it is one and the same; so is the Herb, whether call'd Cole or Rape; which is a very succulent or juicy Plant, and therefore more productive of Milk in Beasts, than either Turneps, Carrots, or any other Sort of Root or Herb that commonly grow in Fields. It is on this account
that

that most of the Plough-farmers, for about twenty Miles round *London*, who suckle House-lambs, and keep Milch-cows, sow this Seed ; for the high-growing Colewort will become an excellent Food in frosty and snowy Seasons, when Turneps, and all Kinds of Grass, are covered with Snow, and produce such Quantities of Milk, as nourishes and fats their House-lambs with great Expedition, for an early and profitable Market. But in *Lincolnshire*, and in the Isle of *Ely* in *Cambridgeshire*, and in some other Parts, they sow Rape-feed, in order to obtain full Crops of this Herb, for feeding and fattening their large Pole Wether-sheep: Which it accordingly does ; insomuch that from these Places many Thousands of Cole-fed Sheep are driven up to *London* early in the Spring ; and so early, that by this means they commonly get a better Price at this Time of Year, than in after and later Seasons. Hence it is, that our Chilturme, and other Butchers, keep their fatting Sheep back, from sending them to be sold in *Smithfield* ; saying, Let the Fen Cole-sheep be sold, and then we shall meet with the better Market for ours. Not but that we sow great Quantities of Cole-feed of late, in our Chilturme Country, in clayey loamy, and even in gravelly loamy Grounds, whether they lie dry or wet. But it is past Contradiction, that Cole thrives better in wet than in dry Lands : And, for the better Explanation of this, I shall be somewhat particular in writing of the several Sorts of Soils Cole-feed may be sown in to Advantage ; and first of

Sowing Cole-feed in clayey Grounds. ——— There are several Seasons in the Year that admit of sowing Cole-feed, according to the Nature of the Land, and the Uses it is to be put to. If the Land is of the clayey, or very stiff loamy Sort, and lies wettish, as most of this Sort of Soil does, it must certainly require the more Plowings to bring it into a fine
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Tilth ;

Tilth; and a fine Tilth is indispensably necessary to be prepared and got ready for sowing this Seed, whether it be in Fen, Vale, Marsh, or Chilturue Grounds; for this Seed, being about the Bigness of Turnep-feed, is commonly harrowed in, and not plowed in; because, if it is done in the last Mode, it would be apt to be buried, and the Crop lost. But this not all: The Manner of plowing clayey and stiff Soils, preparatory for the Reception of this Seed, and the Growth of its Plants, is a Matter of Importance; for, without a Knowledge of this prime Work, the Seed, Labour, and Expence, may be lost. In Fen, Marsh, and Vale-lands, they are forced to plow and lay their Earth in broad or in narrow Ridges, as the Ground lies drier or wetter; if very wet, the Ridge-lands must be laid the higher, and should be the narrower; and this is to be done with either the common Foot-plough, the Swing-plough, the Draught-plough, or the Foot-turn Wrest-plough, &c. generally in the Length, and not in the cross Way of Plowing; for such Ridge-lands will not admit of any other Way of performing it in right Order. But where Ground lies not too wet nor too dry, and yet is of a stiff Nature, it is in many Parts plowed into four-bout Lands, preparatory for harrowing Cole-feed in the same; as I have seen done in some Places in *Suffolk* and *Middlesex*. Now when such Sorts of Land are plowed and dunged well, so that it lies pretty fine, then the latter End of *June*, or Beginning of *July*, the Ploughman, who is commonly the Sower of this Seed, harrows it first twice in a Place; and then proceeds to sow about three or four Pounds, or more, of it, on one Acre; and then gives it only one Harrowing, and the Work is done: But some will sow half a Peck on one Acre of Ground, for the better Security of a full Crop.

Sowing

Sowing Cole or Rape-feed in loamy Land. ———

If the Land is an intire, a gravelly, or a sandy Loam, if it is well ploughed, and well dung'd, it may be made to become a good Crop of Cole or Rapes ; but when such Ground is to be sown with this Seed, special Regard ought to be had to the proper Time, lest Time, Labour, Seed, and other Expence, be most of them lost. Now if a Person has a mind to get a Chiltarne inclosed Field take with Cole or Rape, and to stand throughout the Winter in a right Order of Growth, he must not sow this Seed till the Middle of this Month at soonest ; for if he does, the young Crop is in great Danger of running into feedy Heads before the Winter ; and then the Stalks will get hard and dry, and, in short, be neither fit for Cows nor Sheep, nor hardly any thing else.

Cole or Rape-feed, to sow at several Seasons of the Year. ——— Hence it is that Cole or Rape-feed may be said to be sown at several times in the Year, viz. In tilth clayey Grounds, as I said, the latter End of *June*, and in dry tilth loamy Grounds in *July*, are the chief Times for sowing Coleseed in Fields ; but about *Watford*, *Rickmansworth*, and other adjacent Parts of *Hertfordshire*, the suckling Farmers, or those who suckle House-lambs, take care to sow some of their Land with the Puffin *Hampshire* Kid-, or *Cobham* Hog-peas ; for as these are a forward Sort, they sow them to come off by an early Opportunity for plowing the same Land, and sowing it with Cole seed in *August*, or in *September* at farthest. Others sow the blue Boiling-pea, and the *Essex* white Roding Boiling-pea, for the same Purpose. Those indeed that sow Ormuts, Masters Hotspur, and the great Union Peas, and other Sorts, for selling them green in their Pods, may certainly get them off much sooner than any of these ; but as they commonly grow in sandy and
I gravelly

gravelly Earths, for getting them into an early Order to set on Crops of Turneps, to draw to sell, or to feed their Sheep with in Winter, I have no more to say of them here, but proceed to observe, that though Cole-feed is sown so late as in *August* or *September*, after a Pea-crop, or a Barley or a Wheat-crop, on one plowing up of the same, and harrowing-in the Seed; yet so it happens, that a good Crop of Cole, by these means, is often got, to the great Advantage of the Owner; I say, to his great Advantage, because such later-sown Cole-feed may produce a Crop that will answer to as much Profit as any early Crop; for when the first Crop of Cole is eaten off, that was sown in *June* or *July*, this last will come into Use in *April* and *May*, and serve to feed Cows, Sheep, Lambs, Deer, &c. in the scarce Time of Hay and Grass; which too often then happens to be the Farmer's Want, by having expended his dry Meat, before the Grass gets Head enough to become a sufficient Food. But as to the Manner of feeding such Crops of Cole or Rapes, I shall postpone the writing of it now, for doing it in proper Months; for I assure you there is more in this than most People are aware of: And it is also on this Account that some sow Cole-feed in *February* and *March*; so that this Herb is now become such a Field-plant, that it may be truly said to be one of the most serviceable Sort growing in Fields: And it is my real Opinion, that as Cole-feed is every Year more and more sown, it will, in a great Degree, in time, supplant the Turnep; because it is most certain, that the Colewort or Rape will produce more and sweeter Milk than the Turnep, if given to the Beast before it is too old and rank; nor is it so liable to choak a Cow or Sheep that eats it, as a Turnep is. Indeed, as to the hoving Quality, I must own, it is rather apt to do the Beast Mischief than the Turnep-leaf; however, this is but one In-

con-

conveniency belonging to the Colewort; to the Turneps, two.

Of dunging and manuring Land, for a Crop of Cole or Rapes. — This is to be done before or after the Cole seed is sown: If before, Dung is a very agreeable Dressing for nourishing a Crop of Rapes; if after, Soot, or Peat-ashes, or Clay-ashes, or Oil-cake Powder, or any other pulverized fertile Manure, will very well answer the End. If the Dung is of the long Sort, it is very proper to plow it into the Ground in *March* or *April*, that it may have time to rot and mix with the Earth, against the time of sowing the Seed in *June*, *July*, or *August*. If it is short rotten Dung, it is best plowed in at the last Plowing; for such short Dung will mix with the Earth at once, and is a very natural Dressing to this Sort of Plant in particular; because a Colewort being of the Cabbage-kind, it employs a considerable Quantity of Earth to nourish its Growth; and where a good Parcel of Dung is laid in to its Assistance, this Plant will grow very fast into a large Head of Leaves, and thereby be the better enabled to resist the Severity of a long frosty or wet Winter. But notwithstanding Dung is so agreeable to the Nourishment of a Crop of Coleworts, yet there is an Inconveniency attending it; and such an one, as oftentimes proves fatal to whole Fields of Rapes; for Dung is well known to be a great Breeder of Flies and Worms, and an Incentive to the destructive Slug, or naked Snail; and which are all Enemies to a Crop of Rapes; because while the Rapes are in their tender infant Growth, and when they have made their first two Leaves, the Slug (especially if wet Weather happens in the time) is very likely to attack and eat them up; and then, very probably, the whole Field must be plowed again, and another Quantity of Seed of this, or some other Vegetable, be sown

to a Farmer's great Loss. Now, Sir, as you have very wisely and very generously paid me (even before you have tried my Ingredient, by taking my bare Word for it) for my Receipt herewith sent you, how to prevent this great Mischief; a great one indeed, where a Person loseth twenty, forty, sixty, or more Acres, of young Coleworts, perhaps all in one, two, or three Weeks time! I do assure you, that the very cheap Ingredient that you have with you, will infallibly answer all I have said of it; because it is impossible, that any Slug, or Fly, or other Insect whatsoever, can hurt a young Crop of Rapes, Turneps, Flax, or any other Crop, in its infant and most dangerous Growth, after the Application of it, let the Weather come how it will: And this it will effectually perform, at the same time it is nourishing the Earth, and the Plant that grows in the same, free of giving it any bitter, or other unpleasant Tang, or unwholesome Quality. And this Sort of cheap Manure, which is to be had almost in all Countries where Colewortseed is sown, is so necessary to be kept in a Readiness by all Persons who sow the same, that none ought to be without it; because by its Assistance they may, as I said, be assured of a Crop of Coleworts growing, and standing safe and sound from all Damage of the Field-insects; whereas, before I discovered this safe Antidote, I myself have lost whole Fields of Coleworts in a very few Days, that were eaten up by the Slug, or little naked Snail, while they were in their first and infant Growth. As no Land can be too fat and rank for the Growth of Coleworts, so none can over-dung, or dress it too much, for the Growth of this open-headed Vegetable; and therefore new-broken up Ground, made first fine, or any other rich moist Soil, in Chiltunes, in Fens, or in Marshes, cannot be too rich for bearing a Crop of these Plants; and which
gives

gives those Persons who are Owners of such soft Ground as you observe yours is, that lies near the the salt Water, a favourable Opportunity to improve it to an high Degree of Profit, by sowing it with this Seed; where it will flourish in very large and high Stalks and Leaves.

Of sowing Rape or Cole-feed, by the Three-wheel Drill-plough. ——— It is true, that the most common Way of sowing Cole-feed is, out of a Man's Hand, in the broad-cast Mode of sowing it, without the Assistance of any Matter mix'd with it, to make it spread the better, as Mr. *Worlidge* and others direct; for this Seed is bigger-bodied than Clover-feed; and if a Person were to advise our Countrymen to mix Sand, or other light Earth, with it, for preventing it growing in Clusters, they would be apt to laugh at him. I never knew any of this, or Clover, or Lucern, and some other small Seeds, sown with any Mixture, but intirely of themselves; and most of our Ploughmen are expert enough to sow them so true, that the Crop generally comes even; and this Sort of broad-cast Sowing they perform not only on broad Lands, but also on Four-bout Lands, and harrow-in the Seed: Yet there is a Way to get a Crop of Rapes by the Drill-plough, which will sow the Seed in a regular Manner in Drills, at a Foot Distance, and cover it with Mould, immediately after the Seed is dropt out of the Hopper; and thus become a Dressing for nourishing the Crop under all its Growth. But this is not all the Dressing that a drilled Crop of Rapes requires; for, besides the Mould that always falls in of itself, as soon as the Seed is dropt into the Earth, there is more to be added afterwards, when the *Dutch Hoe* or *Horse-break* is employed in the Interspaces between the Drills; which leads me to make Observations on the same.

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The Benefits that the Dutch Hand-hoe and the Horse-break yield to a Crop of drilled Rapes. — For this Service, either the *Dutch Hand-hoe* or the *Horse-break* may be made use of: If the *Hoe* is to be employed, the *Rape-seed* should be drilled in *Drills* at a Foot asunder: If the *Horse-break* is to be employed, the *Seed* should be drilled in *Drills* at a Foot and an half, or two Feet asunder: But whether the one or the other is employed, there must be two several *Hoeings*, or two several *Breakings* of the *Ground*, between the *Drills*, if their *Growth* will admit of it, to kill *Weeds*, and lay some *Mould* on the *Roots* of the *Rapes*. But I should have first said, that if the *Rapes* come too thick in the *Drills*, there may as many be hoed up with the common pull-to *Hand-hoe*, in their infant *Growth*, as you think is necessary for giving those *Rapes* that remain behind, and are to stand for a *Crop*, sufficient *Room* to be maintain'd in a fertile and large *Growth*: For I do assure you, that this new *Way* of improving a *Crop* of *Coleworts* will turn to your great *Advantage*, if a considerable *Quantity* of *Ground* is sown with them, and your *Climate* will permit them to stand the *Winter*; because these two new *Instruments* are exceedingly well contrived for the *Purpose*, not only for dispatching a great deal of *Work* in a little *Time*, but for doing it in such a *Manner* as saves the *Expence* of *Dressing*. What a valuable *Instrument* then must a right *Sort* of *Horse-break* be, when, by its being drawn along the *Intervals*, it not only loosens the *Ground*, and kills the *Weeds*, but at the same time lays such a *Quantity* of *Mould* over the *Roots* of the *Rapes*, that as the *Autumn Rains* wash down the *Salts* of such *Earth* on them, they will force on both a very quick, and a very large *Growth* of the *Coleworts*! Here you see how necessary a *Three-wheel Drill-plough*, an *Horse-break*, and a
Dutch

Dutch Hand-hoe, will be to you, for sowing your marth or moory Ground with Cole or Lucern-feed; I say, necessary, because this Piece of Husbandry may cause such a soft Soil to pay you as much, or more, than the driest Ground you are Owner of. But, by the way, I must caution you (and others by you) not to content yourself by sending for a Horse-break: If you do, it is a chance but you will be obliged to send for two Sorts, instead of one; I mean, that you will have one sent you, that will only do the Work in part; and then you must be forced to send for another to complete it; whereas, when a Gentleman sends to me for a Horse-break, I will send him one that is made with two, if not three several Sorts of Iron-work to it, for its performing two or three several Sorts of Operations; a Curiosity of such ingenious Contrivance, as will surprise any Person on the Sight of it, that never saw one before; and may be justly said to be one of the most pretty, plain, and most profitable Instruments, that ever was made by Man, for improving of Land. But where the Drill-plough, the Horse-break, and *Dutch* Hand-hoe, are unknown, the Cole-feed is sown broad-cast; and then some will hoe the Crop at a proper Height, with the common pull-to Hand-hoe, in the same manner they do Turneps. Others will not hoe them at all; but when the Crop is to stand for Seed, it is more than ordinary necessary to have Coleworts hoed one way or other: But more of this in my future Works; for here I shall proceed to answer your thinking your Winter too cold for suffering a Crop of Coleworts to be serviceable to you.

How Coleworts may be preserved sound and serviceable in extreme cold Climates. ——— This is an Article, I must own, that I never read or heard of; I suppose, because no Author had the Occasion that I have for writing on it: But as it now comes in my
Way,

Way, I have to say, that I observe you think Coleworts will not stand the Rigour of your Winter, so as to be serviceable to you, because Carrots and Turneps will not. In my third bound Volume of *The Modern Husbandman*, for the Month of July, at Page 35. I have there given an Account of the hardy Nature of this Plant; how, in the severest cold Winter known in the Memory of Man, one inclosed Field of Coleworts, standing within about a Mile of my House, became very serviceable, by means of being shelter'd and defended by a contiguous Wood, against the North and East Winds; whilst another Field of Coleworts, that stood near the other, and exposed to their sharp Violence, were destroyed. From which I infer, that where a Crop of Coleworts is much exposed to the Severity of a whole Winter's Frosts and Winds in your Northern Colony, they may, and very likely will, be killed by them. This has employ'd my Thoughts how to prevent it; and my Thoughts on the same I here present you with. In most of the Gardens about *London*, a Person may see few or more moveable Fences, made with Reeds, so close, in an upright Form, work'd together, as to keep off the Penetration of Winds in a very potent and effectual Manner, from destroying their young and tender Winter-plants; and accordingly, as these Fences are about six Feet high, they fully answer the Gardener's Expectation, beyond any other known Invention for this Purpose. It is therefore my Opinion, that if you would provide yourself with a sufficient Number of rodded Hurdles, made nine Feet long, and five or six Feet high, and set them up erect accordingly long-ways, they would in a great measure break off the Winds, and prevent the Mischief; for these rodded Hurdles are made so close with the Hazel-rods, that they will shelter Cattle and Vegetables in a most powerful Manner,

Manner. It is for this Reason that, in the open Field of the West Country, they make use of no other Sort of Hurdles than these, while we in *Hertfordshire*, in our inclosed Fields, and the same in the open Vale of *Alesbury* in *Buckinghamshire*, use no other than the open five-slotted Hurdle, that is made nine Feet long, and four Feet high. Now I suppose, that a Range of these close-rodded Hurdles be erected, and well supported by wooden Stakes, fastened in iron Sockets, for causing them to enter the Ground the easier and deeper, and placed in Rows fifteen or twenty Poles long; at the End of which, some more Hurdles should be placed cross the Land, the better to break off the Winds. So that the Rows standing twenty Poles in Length, and two, three, or four Poles asunder, the Hurdles will do considerable Service in protecting the Rapes, unless the Frosts be more severe than I apprehend. Hence it is, that in the open high-situated Fields of *Edlesborough*, that lies about two Miles and an half from my House, when they feed their Sheep here with Turneps in the Winter, they erect some Hurdles in a single Row, drawn through with Straw-bands; and generally place them so, that they stand against the North and East Winds, in order for the Sheep to shelter themselves, while they feed or lie down, against the Fury of cold Winds, and drift Rains; and it answers all their Trouble and Charge; for by this means the Beasts eat their Meat with the better Appetite, and feed and lie the drier. So in the open sandy Fields of *Leighton* in *Bedfordshire*, when they feed their Sheep and Lambs on Turneps, they set a large Parcel of Hurdles, drawn with Straw-bands, to shelter them, and break off the cold Winds and Rains, and cause them to fatten the quicker, by moving the Square of Hurdles in which they are confin'd, and often giving them fresh Bites of Meat.

Of chusing a right Sort of Cole-feed. — This, I do assure you, is a material Article ; for without good Seed a good Crop cannot be depended upon. In *November 1744*. I was commission'd by a Gentleman living in a distant Country, to buy a Bushel of Cole-feed. Now, as several Places lay very convenient for this Purpose, I bought this Quantity at one of them ; but I assure you, I first tried more than one, because I was offered a brown, and almost reddish-coloured Cole-feed, for four Shillings a Bushel ; but I rejected it as worthless ; for such Seed was either decayed by long keeping, or housed wet, and heated (or what we call burnt) in the Mow ; and then it is spoiled. At another Place I was offered Cole-feed from three to five Shillings a Bushel, and chose the latter, as being of a jet-black shining Colour, with a large heavy round Body : This I bought, and am sure, if no ill Accident happens to it, it will give the Gentleman Satisfaction.

How dry and wet Lands affect Crops of Rapes. — Rapes are now well known in several Counties to become Field-, as formerly they were only a Gardenware ; and indeed this is done with a great deal of Reason, as the Rapes serve to breed up young Cattle, produce Milk in Cows, Ewes, Sows, Rabbits, &c. and fat dry Beasts with the greatest Expedition. Of late, therefore, Rape-feed has been sown in our Chiltarne Country with great Success ; but as this Seed is for the most general part sown in the broad-cast Form, and only harrowed into the Surface of the Earth, it is very much exposed to the Damage of dry Weather, which is an utter Enemy to the Growth of this succulent Plant ; because this, like the Bean, requires much Moisture to perfect their large Growth : And hence it is, as I said, that in Fenny, Marsh, and Vale-lands, they run into the biggest Size, and prosper to that Degree, as to yield abundance of
Seed

Seed for making the best Sort of Lamp-oil. But when Rapes grow in Chilturue, or lean dry Grounds, the before-mentioned Drill-plough and Horse-break are most useful Instruments to help them, and even to supply the Place and Charge of Manure, Dung, or other Dressing, by the Earth's falling in upon the Seed out of the Drill-plough, and the Cover of Earth that the Horse-break lays afterwards on the Roots of the Rapes, that nourishes them into an extraordinary quick Growth. And indeed such an Invention was more than ordinary wanted, for the Improvement of Rapes in Chilturue Lands, because this Vegetable employs a great deal of the Earth's Goodness to nourish it, and requires a sufficient Cover to its Roots, for defending them against long and great Droughts, and long and great Frosts. I have sown some of my inclosed Fields with this Rape-feed, and so do others in our Chilturue Country, with great Encouragement; because of the valuable Service Rapes do for feeding our Cattle in Winter and Spring Seasons. Of this Plant but few Authors have written, and they but very little on it; as Capt. *Blyth*, Mr. *Worlidge*, and Mr. *Trowel*; the last of which having done it very lately, I shall transcribe his Words here; viz. " Cole-feed
" is a Seed to be planted in fenny Marsh-land,
" or Land new-recovered from any Inundation, or
" any coarse rank Land of any Kind, that is not fit
" at the present for Corn; the chief Care is to have
" good Seed; the largest is best, which is to be
" had in many Parts, but that from *Holland* is
" counted the best; the Season for sowing it is at
" *Midsummer*; the Land must be well plowed, and
" made fine; about a Gallon of Seed sows an
" Acre; it is better to mix it with some light
" dry Earth, or fine Sand, to prevent it growing
" in Clusters; many Persons sow it for the Benefit
" of the Produce of Seed, which if for Seed only,

“ Care must be taken, that when the Plant is grown
 “ up, and set for Seed, that is, begins to turn
 “ brown, you must reap it as you do Wheat, and
 “ lay it up together. two or three Handfuls in a
 “ Bundle, till it be dry, for about a Fortnight: It
 “ must not be turned or touched, if possible, for
 “ fear of shedding the Seed: It must then be ga-
 “ thered in Sheets, or rather a great Sail-cloth, and
 “ so carried into the Barn to thresh it, tho’ many
 “ Persons thresh it in the Field. The Seed is
 “ worth about four Shillings a Bushel; and if a
 “ good Crop, it will yield about ten Bushels an
 “ Acre, or more, if a good Season. It is a Commodity
 “ that will not want of Sale; the more you have, the
 “ better Price it bears. It is used to make Oil. There
 “ may some Turnep-feed grow among it, which will
 “ make Oil also. It grows best near the Water. Those
 “ that sow it in Grounds about the Isle of *Ely*,
 “ and other Parts of *Cambridgeshire*, and some
 “ Part of *Huntingdonshire*, &c. feed many Hun-
 “ dreds of Sheep fat, to a very great Advantage;
 “ which are sent up to *Smithfield* Market, and sold
 “ there in great Numbers. Now when the Ground
 “ is plowed, and made fit for the Seed, then you
 “ may sow the Manure either before the Seed, or
 “ after; by which you will have much greater
 “ Crops, and stronger; and after the Seed is off,
 “ the *Edish* will feed Sheep very fat.” — Thus
 far Mr. *Trowel*, who is a Gentleman, as well as
 the two others, that deserve Praise for the little
 they have written on this noble Plant; because they
 have undoubtedly done some Good by it. When
 we sow Cole-seed, we sow it like Turnep-feed, twice
 in a Place, but harrow it in only once in a Place,
 when we sow it broad-cast; and if the Ground was
 sufficiently fine before sowing, the Harrows will
 give it a full Covering. For the rest, I refer you
 to what I have already written in my Books of the

Modern

Modern Husbandman, and to those I intend to write under the Title of *Agriculture Improved.*

C H A P. X.

OF Turnep-feed. ——— Although I have largely written of this serviceable Root in my *Modern Husbandman*, yet, as I am almost every Day learning few or more Improvements, from Correspondents, my Neighbours, and others Practice, as well as from my own Experience, I shall here resume the same Subject, and write, that I have for near thirty Years sown Turnep-feed in my clayey, loamy, gravelly, and chalky Fields; and find that the clayey Loams return the largest and rankest-tasted Turneps, and the Gravels and Chalks the smallest and sweetest; tho' it must be owned, that a sandy loamy Soil produces the best Turnep of all other Earths. Now for obtaining the desired End of having a full Crop of a right-sized Turnep, there are several Requisites necessary to be provided, previous thereto: First, A due Regard should be had to the Turnep-feed, that it be a fresh Sort, large, heavy, and of a true black Colour; for if it is gathered before it is thoroughly ripe, it will be small, shrivelled, light, and guttery; but if gathered when full-ripe, in a dry Time, it will have the Perfections just mentioned: However, whether it be gathered ripe or unripe, if it is housed wetish, the Seed will be apt to heat, and be of a reddish and blackish Colour. These I should think are Instructions or Signs enough, to arm a Person against being imposed on with bad Turnep-feed; which is a Matter of such Concern, that whoever is not Master of good Seed, he has little Reason to expect a good Crop of Turneps. When Turnep-feed is got in sound and well, it will keep

two or three Years good, if laid out of the Danger of Frosts, Mice and Rats; with this Caution nevertheless, that if such Seed is kept more than two Years, it should be delivered and cleansed from all Dust that it may acquire by lying in Sacks or otherwise, by a fine wire Sieve, or by a Wind or Kneefan; for though this Seed was ever so well cleaned at first, it will in most Places gather and lodge Dust; which, if it be in too great a Quantity, will heat the Seed, and perhaps breed Weevils or Mites in it, and make it unfit for Use. As to knowing whether Turnep-feed is of the round red or round white Sort, a Tankard red or a Tankard white, &c. it is not on Sight at the Seed-shop to be depended on; and therefore a Person is obliged to take the Word of the Seller for it; who, in this Case, ought to be one of a good Reputation.

Of Soils proper and improper to be sown with Turnep-feed. — There is no Author that I ever yet met with, has made this Distinction in his Writings, of sowing or not sowing Turnep-feed in Vale grounds; the Reason of which Omission I take be owing to their Unacquaintance with the Situation and Nature of this Sort of Land; but how necessary such an Account is, I leave my Reader to judge, after he has read what I have to advance on this Subject. It is true, that there are different Sorts of Soils in Vales; but the general Soil is a blackish Clay, or stiff black-and-blueish Loam, as it is throughout the greatest Part of the fine fertile Vale of *Alesbury*; a Soil too fertile, in most Places of it, for the Growth of Peas or Turneps. If Peas are sown here, they will run so much into Stalk or Halm, that they would kid or pod the less for it; and if Turnep-feed is sown in such rich Earth, they will run into Stalks and Leaves, to such a degree, that they will have the less Roots for it: But admit they did apple or bottle well, and

and grow here into a large Size of Roots, yet they are neither fit to be fed on the same Land, nor to be drawn to be fed elsewhere. If an Attempt should be made to feed Sheep, Oxen, or Cows, with Turneps, on the Spot of Ground they grew on, and in the Winter, the Cattle would so sink in and stolch it, that they would eat their Meat in Misery, and grow rather leaner than fatter. Besides, in such an Earth and Season of the Year, the Beasts would daub and dirty the Turnep in eating of it, and consequently make it an unwholesome Food, so as to breed the Red or White Water, and perhaps a Rot. But this is not all the Mischief that attends such a Vale Turnep crop; for if, to avoid the last Evil, the Turneps are drawn to be fed on Meadow, or other dry Ground, there would remain behind so many hollow Places or Holes in the Land, as would give the rainy Waters room to make a Lodgment in them; and as, by this means, such Holes become Receptacles for holding and retaining Water, it would soak through most or all the upper Part of the Earth, and the whole Ridgeland would be greatly damaged by it. Yet this great Evil has not been always so conspicuous, but many have been of Opinion, that they could enjoy profitable Crops of Turneps here, as well as they do in Chiltarne Countries; and accordingly made Trials for the same Purpose: But, alas! they have come off with Cause of Repentance; because, by such an Attempt or Trial, they have so sour'd and clung their Earth, that they could not recover it again into its former Sweetness and Fineness, under six or more Years time. I have had the Superintendency of a large, and, for the most part, open Field Vale-farm, lying in the Vale of *Alesbury*, about four Miles Distance from my own Farm, in the Chiltarne or Hilly Country, that before, when lett to a Tenant, went at one hundred and sixty-

five Pounds a Year, and managed it till the Gentleman Owner could fit up his House, and stock and furnish his Farm with every thing that was necessary for carrying on the Management of it to Profit ; for this Gentleman took it into his Hands, on purpose to enjoy a Country Life, to which he had before been a Stranger all his time ; and he so delighted himself with it, that he neglected (tho' a rich Person) other Diversions, to live here, and improve this his pretty Farm, consisting of about fifty Acres of Meadow, and about one hundred and fifty of arable Land. The first Improvement he began with, was providing himself, by my Advice, with various Sorts of delicate Wall and Standard Fruit-trees ; which I planted where I thought the Soil was most agreeable to their Nature ; and in such an advantageous Manner, that many of them, in ten Years time, grew to a surprising Bigness, that was fenced in from the Rub and Bite of Cattle ; while some others were stunted, and came to little ; because the Gentleman's Servants being careless in keeping up the Fences, the Cattle got Access, and rubb'd their small Bodies, loosened their weak Roots, and cropp'd their tender Shoots : But of stocking a Farm, more hereafter.

C H A P. XI.

Of Plowing, Sowing, &c. various Lands.

The Copy of a Letter from a curious Gentleman, shewing his Practice in the Improvement of his various Soils ; sent to the Author for engaging his particular Answers to the same.

S I R,

Jan. 2. 1744-5.

I N your Letter of the 10th of December, you desired to know what inclosed Grounds I have, and their Soils ; which I have here sent you, and, for Ease, have numbered. Number

Number 1. 9 Acres : A stiff Marl, Bottom and Top, which it is three Years this Spring, since I laid it down with Clover ; some Lands with *St. Foin*, some with Lucern, and some with Trefoil. The Clover did well, and *St. Foin* better : But the Lucern and Trefoil are now quite gone, and a poor Grass grows in their room.

Number 2. — 6. A stiff mix'd Soil, which I shall this Spring lay down with Oats and Clover. These two Pieces of Ground are the poorest I have, and lie near a Mile from my House : I sowed Hornshavings in part, and lim'd most of the other.

Number 3. — 6. A gravel and mix'd Soil, and has had very good Crops for some Years ; been laid down three Years ; seven Lands I sowed of it with Lucern, but did not answer ; the last Crop was Barley, which I steeped according to your Practical Farmer's Receipt, and answered very well.

Number 4. — 5. A fine deep rich black Soil, which had lain down as a Meadow thirty Years, till last Year, when I broke it up, and sow'd Flax-seed on it, which I imported from *Riga* in *Russia*, and had a good Crop, worth twenty Pounds, clear of all Charges. I sold all round this Country eighty-four Strikes of the *Riga* Seed, at eighteen and twenty Shillings a Strike, last Year. Most of our Farmers, when they break up any old good Land, lett it for sowing Flax-seed for the first Crop ; and then either Turneps or Wheat after, but mostly Wheat. I sowed some of your Wheat on about one Acre and an half of it.

Number 5. — 3. A good Upland Meadow, which I can float with Water all the Year ; last Year a Mixture of Lime and Mud I put on it, and this Year I dung'd it.

Number 6. — 5. Number 7. — 2. Both these Grounds are good feeding Land, but cannot be floated ; and have been down many Years, and are a mix'd Soil.

Number 8. — 3. A rich deep blackish Earth, laid down with Clover and Trefoil last Year. In this Piece I have a small Plantation of Saffron, which does very well, and intend to plant more in *June*. I marl'd and lim'd and dung'd this last Year.

Number 9. — 2. A sandy Gravel, which I muck'd last Year; Part of it I sow'd with Turneps, the other Part Buckwheat; and at the same time I sowed Weld or Wold-feed. I had good Turneps and Buck, but the Weld was thin; so that Yesterday I had the Ground plow'd to sow the Peas you sent me, when the Frost is gone.

Number 10. — 2. A stiffish Soil. which last Year I had Wheat on from a Clover-lay, on only one Plowing and Harrowing well; and last *February* I sowed all over it fifty-five or sixty Bushels of Soot, but was a thin Crop. I plowed up the Stubble since, and since that muck'd it all over. I am not determin'd what to sow on it, unless Buck-wheat.

Number 11. — 7. A stiff Earth, mix'd with Clay, and some Gravel. I last Year sowed Wheat on five Acres, and footed it as before; the other Part I sow'd with Barley, and well muck'd it. I had middling Crops. Where the Barley was, I sowed two Sorts of Wheat you sent me. As the Muck was well rotted, the other Part I intend to sow Peas, by Winter-plowing it. The Frosts have made it a fine loose Earth.

Number 12. — 2. A red Marl. I had good Wheat on it last Year: The Frosts have meliorated it so, that I have a mind to venture to sow Barley on it. Last Year it was both muck'd and footed.

Number 13. — 3. A fine Gravel and good Land, which last Year I had Wheat on, and a good Crop; I intend this for Barley.

Number 14. — 5. An Upland grazing Ground, that has been down five Years, and is a mix'd Earth. I a few Months since dung'd it all over.

Number

Number 15. — 3. A stiff Soil, laid down three Years since with Lucern: I lim'd and dung'd it well at that Time, and had a good Crop of Lucern; some of it I have now by me, but this Year I am afraid it will be overcome by the Natural Grass.

Number 16. — 3. A mix'd Soil, laid down, two Years since, with Clover and Trefoil; which I had first and last Year great Crops of; and is a very good Piece of Land for Wheat and Barley.

Number 17. — 4. A fine Meadow, which I can float.

Number 18. — 6. A lightish Gravel, laid down last Year with Clover and Trefoile. Here I sow'd Buck-wheat, and plowed it in; it cleared the Ground of Weeds, and I had a good Crop.

Number 19. — 3. A light Gravel, with some Sand: This had two Years ago three hundred Loads of Marl laid on it, and since that, well dung'd all over. One Acre of this I have reserv'd to sow your *Fulham* Barley; the other is with the Wheat you sent me.

Number 20. — $\frac{3}{4}$ of an Acre. An Orchard, well planted with Cherries, Apples, Pears, Plums, and Walnuts, at the Bottom. I had Wheat between the Trees last Year, above thirty Thrave to the Acre, being a mix'd sandy Soil.

Number 21. — ditto. A Garden, with Fruit-trees, no Wall, only for Kitchen-use; a broad Walk, with Rows of Cherry-trees, up to a little Box of a House; the Garden on one Side the Walk, the Orchard on the other, with a good Prospect; which is the Whole of this little Farm, except about twenty Poles in common Meadow. Thus I have given you the Trouble of the Nature of this Farm, and my Management; you see I have laid down a good deal of it within these few Years; for Plowing has paid but ill these last Years, and Grazing not much

better. I had once a Design to lay it all down as fast as conveniently I could, and keep no Team; but at present cannot see it will be best. We plow here five and six Horses in Length, with a strong long and crooked Beam-plough, not a Bobtail-plough. Our Farmers here say a small Plough or Drill-plough will not do here. We are in a woodland Country, and hilly; we have good Oak, Ash, and Elm; and Witch-elm grows well with us. My present Stock of Cattle is seven Horses, six Cows, and two Heifers, and a Bull, with forty Sheep, that I have winter'd, except one, which the other Day died of the Side, or Giddinefs. I have search'd your Books, and ask'd the noted Sheep-jobbers for a Cure, but to no Purpose. I have now one or two more going into the same Way; I think there may be a Cure for it, and it is a great Pity it should not be made known. I have received your Sieve, and tried it to my Satisfaction. I have not seen either the Barley or Peas, but don't doubt it answering your Character; and intend to steep the Barley. The Pheasants are all alive, and like to do well. Your Lady-finger Grass-feed, I intend to send for some against another Year. If you should have an Opportunity by any Neighbour, please to send to Mr. Wright's Waggon at *Dunstable*, half a Bushel of the whitish Peas you mention. I am, Sir,

Your great Admirer, and humble Servant.

The Author's Answers to the Warwickshire Gentleman's Management of his various inclosed Grounds.

S I R,

Little Gaddesden, 4th April, 1745.

AS I have now a little leisure Time, I herewith send you some Observations I have made on your several *Items*. And,

First,

First,—— You say the Lucern and Trefoil Grasses were soon destroyed, and a poor wild Grass come up in their room. This I do not wonder at, because Lucern and Trefoil do not carry such broad Leaves on them as Clover does, and therefore are the more liable to be overcome by Weeds; a Misfortune that is the more increased, if the Land is not first well plowed and dressed, and the Grasses do not grow thick. To prevent this Damage, Lucern should be sown in all Ground where it is expected to remain a Crop for some Years together, in the Drill-way, by drilling the Seed out of the plain Three-wheel Drill-plough, in Drills, at twelve Inches asunder, for the Convenience of hoeing the Intervals every Year, with the dispatching *Dutch* Hand-hoes, to clear the Ground of all Weeds that otherwise would hurt and spoil the Lucern. By this Method, the greatest Crops of Lucern may be obtain'd and enjoy'd for several Years together, in a clean, and in the most profitable Manner possible; for by keeping the Earth of the Interspaces in a loose tilth Condition, free of all Weeds, the Roots of the Lucern will receive such plentiful Nourishment, as will bring on and maintain very large Crops in the driest Soils, free of those usual and great Expences that attend the common Method of supporting Crops of Lucern, sown in the promiscuous Way, by the Application of chargeable Manures; which, though they may help to increase the Growth of such Crops, yet, at the same time, help likewise to increase the Growth of destructive Weeds; and thus bring the greatest Crops of this valuable Artificial Grass under a declining Growth, in the second or third Year of its Age; whereas, when Crops of Lucern are got in the Drill-way, such Crops will last four, five, six, or more Years, in a clean, sweet, healthful, flourishing State; because

here are no Weeds to mow and mix with the Lucern-hay, that consequently render such Hay a pure genuine Sort; for who can tell what destructive Qualities are contained in some Sorts of Weeds? I do not doubt but that the Death of many Beasts is owing to the eating of them; which brings to my Remembrance a Sight I met with, riding into *Kent*.

An Account of great Quantities of Hemlock growing in a certain Meadow-field, and mowed with the Natural Grass of the same; for a Crop of Hay; and of the poisonous Nature of Hemlock.—— It was, I think, in the Year 1742. that, as I was riding into *Kent*, in the Month of *May* or *June*, I saw a Number of Mowers at work in a Meadow that lies between *London* and *Deptford*; and as I rode along, I perceived great Quantities of Hemlock among the Natural Grass of this Meadow; but the thickest of it grew near the Hedge next the Highway, and seemed here to grow in greater Quantities than the Natural Grass, that was then about Knee-high: But, to be more certain of this, I ask'd the Mowers, What that Weed was, that grew in such Plenty above the Natural Grass? They told me it was Hemlock, which they mowed together with the Natural Grass, and made Hay of the same. Hence a Question may justly arise, What Damage such Hemlock may be to the Cattle that eat it as Hay? To this I answer, That as it is well known to be of a poisonous Nature to Man and Beast, if eaten by them in its green Condition, I do not suppose it can be free from such a bad Quality, if eaten by Beasts in Hay. As I keep tame Rabbits, I am obliged to be very careful in preventing Hemlock being gathered, and given them, for Dog-parsley; for, by this Mistake, the Lives of many Rabbits have been lost, where the ignorant Keeper of them knows not the Difference between one and the other. It is true, they are both Weeds much of
the

the same Likeness, and therefore too often the worst is gathered for the best; but the best Way to discover the Hemlock from the Dog-parsley, is to rub and smell it: If the Hemlock is a little aged, it will have a strong disagreeable Smell; and when more old, it will stink almost like Afa-fetida. Hemlock grows in many waste Places, as well as Dog-parsley; and is of so poisonous a Nature, that if a Rabbet eats a little while of it, it commonly kills it by its stupefying narcotic Quality, being cold in the fourth, and dry in the third Degree: But Dog-parsley has a quite different Effect on these Creatures; for this Herb will not only greatly nourish and fat these Animals, but, while it is doing this, it prevents their Potting; that is, they may feed freely on Dog-parsley, without any Danger of its causing the Dropsy or Water in their Bellies; which most Herbs besides subject them to, if they feed much on them. But Dr. Quincy, at Page 195. has given a better Account of the evil Nature of this Weed: — “ This Plant (Hemlock), says
 “ he, grows so much like Parsley, and it is so
 “ difficult to distinguish them when young, as, in
 “ in all Probability, they have sometimes been
 “ gathered and sold together; for there have been
 “ many Instances of Persons, and sometimes whole
 “ Families, being suddenly taken ill, so as to occa-
 “ sion Suspicion of Poison, when they had Reason
 “ to suspect it in the Parsley, by having eat stuff’d
 “ Beef, as is common, or some other Food where
 “ they had been used. It has so much the Disrepu-
 “ tation of being poisonous, that it is never taken
 “ inwardly, unless by such accidental Mistakes as
 “ above-mentioned: But I never heard of an In-
 “ stance where it has proved deadly, tho’ many
 “ are so caught by it. It first affects Persons with
 “ a Giddiness of the Head, and Dimness of Sight;
 “ and afterwards operates violently by Vomit and
 “ Stool.

“ Stool. Fat Broths, and oily softening Liquors, are
 “ good in such Accidents, to defend the Bowels
 “ and Stomach against its Vellications. After its
 “ Fury is over, which lasts not long, it leaves
 “ sometimes a Doziness, or Heaviness to sleep,
 “ and goes off without any further Mischiet.”

On these Accounts it is, that I think it concerns Buyers of Hay to examine, whether there be Hemlock mowed and mix'd with the Natural Hay; at least, to learn what they can of it, in order to refuse buying any Hay that may have a Mixture of this pernicious Weed.

Secondly, — Your stiff mix'd poor Soil cannot well be better improved than by sowing it with Oats and Clover, on Land first prepared for them, by plowing in Horn-shavings or Lime; because there is hardly any thing that can prepare Ground better than these, for either a Crop of Corn or Grass; and such Dressing is so necessary to be bestowed, that it is a Folly to expect a plentiful Crop of either of these, if Ground is not in Heart; yet I am very sensible, that many venture to sow Oats and Clover on their poorest Land, without any Dressing or Manure. But what is the Consequence of this? Why, they generally have, in Return, a thin Crop of both Corn and Grass; or, if the Oats and Clover come up thick, their Crops are commonly short, stunted, and yield not above half the Profit of a well-dressed Crop. But the Folly of such wrong Management reaches farther than all this; because the Trouble and Charge of plowing, harrowing, and sowing for a bad Crop, is the same as for a good one; the Rent and Taxes the same; and the Tythe the same, if it is paid in Money, at so much an Acre, as many Tenants rent it of the Parson. But this Subject I intend to treat of more largely in my future Works.

Thirdly,

Thirdly, — Your mix'd gravelly Soil, you say, you sowed with Lucern, and it did not answer. I do not wonder at it, for the foregoing Reasons ; but give me Leave to remark here the Value of the Three-wheel Drill-plough, and *Dutch Hand-hoe*, which are so plainly contrived, free of too much Machinery, that a Ploughman may be made to be Master of their Management in an Hour's time ; and if you had purchased these Utensils, and the famous Horse-break, and had a proper Servant to work them, they very probably would have done you considerable Service, as you are Master of gravelly and sandy dry Soils ; for these Instruments are not fit for stiff or light wet Grounds, nor very stony Land : But where the Soil agrees with their Operation, the Improvements that may be made by their Uses in a large Farm may be prodigious. As to your Crop of Barley that grew from Seed, steeped according to my Nitre-receipt, I am glad to hear it succeeded ; for it is always a great Pleasure to me to be informed, I have in some measure contributed to the Welfare of any Man ; but most of all, to those who have laid me under an Obligation for their Friendship, as I am sure you have done, because I have taken some Pounds of your Money : However, as I have known more than one Person cross'd in their Expectation in this respect, I shall endeavour to shew the Cause thereof.

Why more than one Person have been disappointed of getting a full Crop of Barley, by steeping the Seed in a Saltpetre Liquor. — When I hear, that this most excellent Receipt has answer'd the Character I gave it, it pleases me more than ordinary, by reason some Servants, who have, on this account, been obliged to go out of their old Road of Practice, have endeavoured to confound the Receipt, and make the Crop of Barley miscarry, on purpose

to avoid any future Trouble that might attend the Preparation of the Seed ; for it is well known, that most or all Ploughmen and Seedsmen look on any new Invention in Husbandry with an Eye of Envy, as thinking any Thing of this Kind to be an Innovation on their old better experimental (though, perhaps, mongrel) Practice, especially if such a new Invention is attended with Trouble, as this in a small Degree is ; and therefore, if the Affair is wholly left to the Ploughman's Management, and he has a mind to make the Thing miscarry, he may do it by putting the Liquor too hot on the Barley-feed, letting it lie infusing too little while, or too long ; or by keeping back, and not mixing the due Quantity of Saltpetre with the Liquor : Or he may be such a Villain, as to sow on purpose the steeped Barley-feed in wet Weather, or on a rough sour Tilth. In either of these two last Cases, the Crop may very likely fail the Owner's Expectation ; not but that a Miscarriage of the Crop may, and has several times happened accidentally ; as when the steeped Barley-feed is sown in a fine tilth Earth, and in fine Weather ; yet if great Rains fall presently after, they may cause the Surface to run into such a Pancake crusty Consistence, as to bind in the tender first Shoot of the Barley-corns, so that they cannot come thorough it into the open Air, and then the Crop is spoiled. An Instance of this I knew befel a Gentleman, notwithstanding he was so curious as to see the whole Affair managed from the first to the last, thus : He saw the Barley boil'd till it bursted, and then he saw the Liquor strain'd from the Barley, and the Saltpetre dissolved in the same ; to which was added so much Dunghil-water as swam in a Tub above four Inches higher than the Barley ; and when these had lain together the time appointed by the Receipt, he saw the Barley-feed limed, and sowed in a fine tilth good-

hearted

hearted Earth; and yet lost his Crop. Now this seeming Mystery I shall unfold, and make the Case very intelligible, when I tell my Reader, that the Soil was a yellow clayish Loam, which though brought, by several Plowings and Harrowings, into a loose fine Texture of Parts, yet, as great Rains fell presently after the steeped Barley was sown, it made the Surface of this Earth run into a crusty Condition, of so hard a Nature, that the tender Spires of the Barley could not come through it, so that most of the Seed rotted in the Ground; for there were but very few green Blades of Barley to be seen, notwithstanding there was a full Quantity of Seed sown. Upon this Sight the Gentleman was not discouraged, but resolved to make a second Attempt of sowing steeped Barley on the very same Land; and accordingly he made the Ploughman plow up the whole Field, and directly sowed it over again, harrowed-in the Seed, and left the Success to Providence. And I am a Witness of what this same Gentleman told me afterwards, on account of this Crop; which was, That he had six Quarters from off every Acre of an Earth, that seldom was known to produce above three Quarters of Barley on each Acre. Now, for the clearer Proof of what I here write, let but a Person inquire into the Nature of those plowed Grounds that lie in *Middlesex*, between *London* and *Edgeware*, and between *Edgeware* and *Radlut*; or those that lie between *Acton* and *Harrow*; and they will find, that very few of their Farmers sow Barley, for fear their disagreeable clay loamy Lands for Barley meet with the same Fate as the aforesaid Gentleman's did, presently after he had sown his first Barley-seed. Hence I am to observe, that there are two Sorts of Earth more liable and apt to come under this Dis-
after, and those are clayey and gravelly Loams. As to the first, it is well known, that a clayey Soil is

one of the softest and one of the hardest of Earths; Witness the Impossibility of drawing Wheel-carriages through it, where it lies low in a wet Winter; and yet, over the very same Ground, in a dry Summer, all Wheel-carriages may be drawn on the Nail, because their hard crusty Surface will not admit of a deeper Impression; and the same of a gravelly Loam, though brought into ever so fine a Tilth, yet is liable to be bound so hard in its top Part, that there is little Hope of a plentiful Crop of Wheat, Barley, or Oats, &c. if the Grain is sown in the broad-cast Way; and great Rains fall presently after its Sowing. I have been the more particular in giving an Account how a Crop of steeped Barley-feed may miscarry, in order to prevent Gentlemen being surpris'd at it; for I have received some Letters on this very Matter, which might have been prevented writing, had they been sensible of what I have here published; for let a Person be ever so well skilled in the Management of Husbandry-affairs, yet he has Reason to believe Hazard attends all his Labour; for though *Paul* may plant, and *Apollo*s water, yet it is God that gives the Increase. And here I take the Opportunity to observe, That if the Gentlemen of *Norfolk* and *Suffolk*, *Cornwal*, *Devon*, *Somerset*, *Dorset*, *Wilts*, *Hampshire*, and *Kent*, were truly sensible of the great Advantages that attend sowing such steeped Barley-feed in their sandy Soils, in their shallow loamy Soils, which lie on stony rocky Bottoms, and in their chalky and gravelly loamy Soils, I am persuaded, they would not forbear putting this invaluable Receipt every Year into Practice; because by this they may be assured, their Crops of Barley will come up all at once, in a most even Growth, in the driest Weather, and continue growing in a most fertile Manner, if there are no Rains fall for two Months together; and at Harvest, if
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the Ground was in tolerable Heart, the Return is seldom less than seven Quarters from off each Acre. But I forbear enlarging further on this Subject, because I have written more fully on it in my *Modern Husbandman*.

Fourthly, — No Man could act a truer Piece of Husbandry than you have done, in sowing your new-broke-up Ground with the best of Flax-feed, that is to say, *Riga* Seed; and therefore your curious, though expensive Care to get it, proved to your high Interest: This is a Matter so much regarded by several of the top Farmers of *Somersetshire*, that they every Year send to *Holland* for fresh Flax-feed, because their Soil being of a different Nature to ours, in their Part of *England*, it becomes a most profitable Change; and Change of Seed to the Ground is somewhat like the Change of Pasture to a Beast, which occasions the greatest Improvement in both. Likewise, by sowing this agreeable Sort of Seed on your new-broke-up rich Virgin-earth, the Crop undoubtedly grows into a very large Bulk; and then in course it kills Weeds, keeps much of the Spirit of the Earth from being exhaled by the Attraction of the Sun, and so hollows the Ground, as to prepare it the better for the Reception of the Seed, and Growth of the next Wheat or Barley-crop, that is to succeed the Crop of Flax. This is far better Husbandry than many practise; who, on breaking up such fresh Earth, know no better Use to put it to the first time, than to sow it with Oats, in order to take off the Fury of its Rankness or Richness, and thus prepare it for sowing Wheat on the same at the very next Season.

Fifthly, — Your Upland Three-acres Meadow, which you say you can float all the Year, gives you an Opportunity of improving it beyond Thousands; insomuch that I may truly say, nothing can give an Owner a greater Advantage on such an Account, than

than to bring Water over an Upland Meadow at Pleasure. And to add a greater Perfection to such a rare Conveniency, you say you have dressed it with Lime, Mud, and Dung. Now if any Man can tell me, how such a Piece of Ground can be more enriched, I shall freely declare he knows more of Husbandry than I do.

Sixthly and Seventhly,—As your mixt Soil is under Grass, though they cannot be floated, they may be amended with proper Dressing, if they stand in need of it.

Eighthly,—Your Clover undoubtedly best suits your deep black Earth, beyond Trefoil; yet, perhaps, both are necessary to be sown together, in a Mixture, to prevent the Hoving of Cows, Oxen, or Sheep; and, for this Reason, I practise the same Method myself, because the Trefoil is of a less windy Substance, and, I believe, somewhat hotter in its Nature than the Clover, which makes both the safer Feed. Then you say you have here a small Plantation of Saffron, which I shall here a little enlarge on.

Of a Gentleman's planting his deep blackish Land with Saffron; which answers so well, that he intends to increase this Sort of Husbandry.—I have, in the last Month of June, written somewhat on this rich Plant, and declared my Sentiment, That as I have travelled, and seen this Sort of Improvement made in a poorish, whitish, gravelly Loam, which, after it has been well dunged and prepared, has borne large Crops of Saffron, I have recommended the increasing this Plant in other Parts of the Nation, than where it is usually planted. And, for a further Encouragement of the same, this Gentleman tells me, that his deep blackish (to be sure, dry) Loam has borne this Plant so well, that he intends to increase his Plantation with this excellent Vegetable, that exceeds, when of *English* Growth, all that comes
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from foreign Parts ; for it is well known, that no Country yielded such good Saffron, as this of ours does. And in planting Saffron there is this valuable Property belonging to it ; that for weeding it, and gathering its Flowers, there must be more Women and Girls employed in the Field, than for any other Vegetable of the *English* Growth : Thus many Poor are set to work for about a Month, or six Weeks, every Year ; and that at a time when no other Work can be done by them in the Field ; that is to say, in *September* and *October*. Sure, if Thousands of Owners of light, loamy, gravelly Land, or such as this Gentleman makes use of, or a sandy or chalky Loam, did know the Value of such a Plantation of Saffron, they would quickly set about getting one : And, on this Account, I cannot but admire this Gentleman's superior Genius, in planting this Vegetable in a Country, where I never heard Saffron was planted before. I therefore publish this Gentleman's Fancy, as an Example for others to come into the same, and do themselves, the Poor, and their Country, a great Service ; for if Thousands of Acres of light Ground, that now pay hardly more than two, three, four, or five Shillings *per Acre per Annum*, were put to this Use, it would not only prevent the Importation of Saffron from foreign Countries, but very much enrich ours ; and rather give us an Opportunity to export ours, for obtaining a good Market abroad for it, since the *English* Saffron exceeds all others in Goodness. To this Purpose, if any Gentleman has an Intention to be Master of a Saffron-Plantation, if they please to send to me, I will put them in the Way, how they may do it in the cheapest and best Manner.

Ninthly,—Your sandy Gravel, by dressing this Soil well, will cause it to produce a sweet and large Turnep. But sowing Wold-seed among Buck-wheat

wheat I think must be wrong Management, as I shall further observe.

How a Gentleman lost his Crop of Wold, by sowing it amongst Buck or French Wheat.—Wold or Weld is better known to the *Kentish* Farmer than any other; because this field Vegetable is more sown in this Country, than any other; for here they employ their gravelly and chalky Soils sometimes to a considerable Profit, in sowing them with Oats and Wold-feed; I say, to Profit, on account of the small Cost they are at to get a full Crop of Wold; which is done by only harrowing in about half a Peck of Wold-feed on each Acre, at the same time the Oats are harrowed in; and if a mild Winter, and wet Summer, succeed, then there commonly happens to be a full Crop of Wold, which is generally ripe in *June*, or in this Month, that is, to be pulled up by the Hands, as I have directed in my *Modern Husbandman*; because the Root of the Wold is serviceable to Dyers, as well as the Stalk and Ears. But this sort of Seed is not confined to be sown among Oats; it may be sown among Barley, &c. But to sow it among Buck-wheat I think is wrong; for such Wheat commonly runs up into such rank Stalks, as to become great Weed-killers; and therefore must consequently receive such a Check of Growth in a *French* Wheat-crop, as must cripple and spoil its next Year's Crop, as was your Case: However, as your Fancy leads you to let a Pea-crop succeed, I think you will be much in the right of it; for a full Crop of those great Peas will rather enrich than impoverish, and prepare the same Ground for setting a Wheat-crop on it the next Season.

Tenthly,—Your harrowing Wheat on only one plowing up a Clover-lay, and footing it afterwards, was certainly true Husbandry; but, as this Manner is one of the most ticklish and hazardous Sort,
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I do not wonder, that it did not answer last Year ; for your Case was the same as mine, and many others, who received little Benefit from this costly Manure ; because a dry long Time succeeded, for the most part, the Soot that was sown in the Spring 1743-4, and caused it to burn up the Plant, rather than yield a Nourishment to it. On the contrary, Soot did the most Service this Spring, I think, than ever I knew it do, by reason of the many fine Showers that fell in *April* and *May* 1745, that washed its Virtue down to the Roots of Barley, Wheat, Grass, &c. and forced on their Growth into a Shew of large, high, blackish, or deep-green Blades. And, I think, if such a stiffish Soil was sown in *February* with Horse-beans, or Peas, or Oats, and Clover sown amongst either of them, it would pay you better than a *French* Wheat-crop.

Eleventhly,—As your Barley ground was well mucked, you might the better venture to let a Crop of Wheat follow it ; though, at best, I must own this is but indifferent Husbandry, because Wheat does not love directly to follow a Barley-crop : For as a full Crop of Barley does not fail to loosen the Ground, the Wheat that is to be sown on the same in a Month or two after, cannot make so fast a Root, and take so much Hold of the Ground, as if it was to be sown in a true prepared tilth Earth ; and therefore we commonly expect to see such an Hitch-crop (as we call it in *Hertfordshire*) to fall down before Harvest ; and then the Consequence is, that, by being laid, the Kernels cannot receive their due Nourishment from the Root, because the Stalks of the Wheat are bent, and thereby the Sap is hindered and stopt in its Ascent to the Ear ; for without the Ears of Wheat have their due Feed from their Roots, the Kernels must in Course grow very slowly, or rather pine, be stunted, and yield but half the Quantity of Flower that an
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upright Stalk, and a full-grown Kernel, generally yield: And then where is two Years Rent to be made of the King of Grain? For we Farmers calculate a Wheat-crop to pay two Years Rent; that is to say, the Year's Rent for the Wheat growing, and the Fallow, or third Year, when nothing, for the most part, grows in the same Land; and why we reckon the *Lent* Crop of Beans, or Peas, or Oats, nothing, is, because we balance the Profit of these with the Consumption our Cattle make of them, the incident Charges of Servants Wages, and twenty other Expences that belong to the Farming Business. However, when you sow Wheat after Barley, you should always observe the following Direction.

The ill Effect of a Gentleman's sowing Wheat after Barley, and the Way to prevent the usual Damage that attends it. — As Wheat and Barley are both great Drawers of the Earth, good Husbandmen generally muck, or otherwise dress, the Ground for supporting the better Growth of their Crops. And to have two great Drawers of the Earth directly succeed each other, is, by many, held at this time of Day bad Husbandry; and so bad it was formerly looked on, that, as far as I can learn, about fifty Years ago, Farmers were Strangers to this Way of acting. But since Clover, Turneps, Rapes, &c. have come into common Practice of being sown in Fields, there have been many Alterations made in the Farming Business, and this of sowing Wheat after Barley among the rest. When, therefore, this is put in Practice, to sow Wheat after Barley, such Wheat should never miss being rolled in the Month of *March*; because the great wooden Roller, drawn by one or two Horses, by its Weight, closes the Earth about the Wheat-roots, and so fastens it on them, as to make their Stalks, in a great Degree, withstand the Fury of Winds and Rains:

Not but that all our Efforts, in some wet warm Years, cannot keep the Stalks of such Wheat upright; however, this is the best Remedy we know to prevent such a Wheat-crop falling down, that is sown directly after a Barley-crop. And next to that, is your sowing such Barley-ground with the Pirky Wheat-feed I sent you; because this sort of Wheat does not grow so high as red Lammas, and yet will yeild, for the general Part, as much or more than Lammas; and fetch near, if not quite, as much Money at Market as that.

Twelfthly,—It is very hazardous to sow your red Marl with Barley; for this Soil is not so safe as a shorter and drier Sort; for if you have not a dry Time to sow this Grain, or if you have, and a wet one presently follow it, there is little Hope of a plentiful Crop, for the foregoing Reasons, notwithstanding your former Years Dressings of Muck and Soot.

Thirteenthly,—*The Benefits of sowing Fulham or rathripe Barley.*—Your Intention to sow your gravelly good Land with Barley, after Wheat, is, as I said before, but indifferent Husbandry; but if any Ground will bear such Management, this will, because of its very agreeable Nature to a Barley-crop; for this Soil produces the whitest and thinnest-skinned Barley, and returns it (if it is a dry Gravel) ripe in a little time: Therefore a *Fulham* Barley will be excellently improved here; for it will obtain a larger Body, and better Colour, than of any intire Loam or Clay: And as this Sort of Barley is the soonest ripe, and fit to mow, even sometimes in ten Weeks time after sowing, I have sent this, and Sprat-barley, far into the North, as well as into *Norfolk* and *Sussex*. For, by sowing such a Seed, you will not only stand a Chance of getting a Crop of it into the Barn sooner than your Neighbour, but the Malt, made of such Barley, will, by far, exceed, in Goodness, any other sown in your

Country : This I aver for Truth, as I have, as well as my Neighbours, experienced it : And indeed we not only sell the Barley, when made into Malt, for more Money than other Malt, but we sell the Seed of this *Fulham* Barley, of the first and second Year's Growth, generally for two Shillings a Quarter more than our common Barley. And many Farmers are glad to have it at that Price, who have not the Conveniency of sending for it. Here are then several Advantages attending the Sowing of this rath-ripe Barley-feed, as its growing sooner into a Crop than any other Barley whatever, with a thinner and whiter Skin, fetching a greater Price than ordinary for Seed, or in Malt, is a beneficial Change to the Ground ; and therefore will pay the Sower of such Seed to a great Degree of Profit, if he sow a good Quantity of Land with this delicate sort of Grain.

Fourteenthly, — The Benefits of dressing Meadow-ground in time with a right Manure.—Your Upland Meadow you say you have dunged all over, and such high Ground generally requires it more than lower Grazing-ground, because the latter, in many Places, is improved by the Fall of Rains from higher Ground. But then such Upland Meadow should be dunged earlier than ordinary, I mean in this Month of *July*, or in *August* or *September*, that the Winter-rains may have time to wash its Goodness into the Earth ; for if Dung was to be laid on here so late as in *March*, as some bad Husbandmen have done, to my Knowlege, and a hot dry Summer succeed it, the Sun, in Course, would help the Dung to burn up the Grass, instead of nourishing it. Nay, I have known a Farmer, or rather Yeoman, who had a Farm of his own, worth about fifty Pounds a Year, in our Country, be so negligent on this Account, that he spread over an Upland Meadow of his many Loads of Dung in the Month of *April* ; and the Consequence

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was, to my View, the Loss of his Crop of Grass that Summer. But the *Middlesex* Meadow Farmer acts a wiser Part; for as he knows his Rent depends on a good Crop of Hay and Grass, he is not wanting to take the best Measures to obtain it: For this End he gets a large Dunghil ready, composed of what Dung his own Cattle make, of what Dung, Coal-ashes, and Soap-boilers Ashes, he buys and brings from *London*, every time he carries thither a Load of Hay; and with Mould, or with what Dirt he can collect, or with small Chalk, that he buys and fetches home at some Distance, he commonly gets such a Dunghil ready against the Month of *June* or *July*, as to lay it on then, for increasing his after or second Crop of Hay; for here they generally mow twice in a Summer; and, if Rains fall in due time, he seldom misses of a plentiful second Crop, and thus gets the Grass-ground into good Heart against the next Year. But, to do all this in the most effectual Manner, the *Middlesex* Farmer spares no Cost; for he seldom or never fails giving his Dunghil two Turnings; by which he so well mixes his particular Ingredients, that they become a most excellent Compost, consisting of such fine Parts, that, when laid on the Grass-ground, and nicely spread over all the same with a Shovel, fails not to enter the Surface; and, if Rains fall in due time, to penetrate, in a little time, down to the Roots of the Grass, and force on a very expeditious Growth of a second Crop of Grass the same Summer.

Fifteenthly,—You say you had a good Crop of Lucern off a stiff Soil, but that you are afraid it will, the fourth Year, be overcome by the Natural Grass. I have seen more than one Example of this, in ours, and an adjacent Parish; where Lucern has been sown on a stiff Soil, but declined in the third Year after sowing, by means of the wild
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Grass and Weeds coming up and choaking it. Therefore I have so strenuously recommended the Sowing of this Seed out of the Hopper of the Three-wheel Drill-plough, and hoeing the Intervals afterwards with the hollow *Dutch* Hand-hoe.

Sixteenthly, — Your eight-acres mixed Soil must be a good Sort for producing great Crops of Corn, or Artificial Grasses, if plowed and dressed accordingly.

Eighteenthly, — You say your lightish Gravel bore Clover and Trefoil. As for Clover, such a Soil is not very agreeable; for I seldom knew a large Crop of it grow in a light Gravel: But for a Trefoil-crop it is very natural, and so it is for the Growth of Buck-wheat; which, if a full Crop of it was plowed in, just as it blooms, it will prove a good Dressing to it, and fit it very well for the Growth of a Crop of natural Wheat.

Nineteenthly. — *Of a Gentleman's improving his gravelly sandy Ground by dressing it with Marl.* —

You say you dressed your three-acres Piece of light gravelly sandy Ground with three hundred Load of Marl but two Years ago; and, since that, have dunged it well all over. This double Dressing must surely be one of the highest Improvements of such Ground; for nothing agrees better with a gravelly Sand than Marl, because its short dry Parts are toughened by the Marl, and brought into a much moister Condition than it was in before. Now these two Qualities being contrary to the Nature of Gravel and Sand, this Mixture reduces it into a loamy Body, and thereby enables it to make a longer Lodgment of all Dungs and Manures that shall be incorporated with it; for while this Soil remained in its original, hungry, short, loose Condition, Dungs and Manures were soon eat up by it, or soon washed away; because the Particles of Gravel and Sand are generally of a globular Make,
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and therefore cannot lie so close together as those of Loams do. Hence it is, that Marls, or rich Clays, are as natural a Mixture with Sand, as Sand is with Clay; because these bring their opposite Soil into a medium Earth; an Earth that may be justly called a Loam, and a Loam the best of Earths; as being the most general Sort of all others, for nourishing almost any Vegetable. On this Account, those Gentlemen who are possessed of Marl-pits have just Reason to think themselves happy, which several Counties in *England* are Strangers to. I do not know of one Pit of this rich Earth in *Hertfordshire*. But, in my late Travels, I have seen several of different Colours, and all of them of a most fertilizing Nature. To supply which Defect, we are obliged to be at the great Expence of buying and fetching at many Miles Distance. Sheeps Trotters, Cows and Oxens Hoofs, Hogs and Cows Hair, Oil-cake Powder, Malt-dust, Lime, Soot, Ashes, Rags, Pigeons, Hens, and Rabbits Dung, &c. And thus we are forced to lay out, in Advance, the Value of an ordinary Crop of Grain, in Hopes of obtaining a very profitable one. Though sometimes we miss of our Aim, and fall short of our Expectation in this Matter; for when a dry hot Summer happens, our Grain on Gravels, Chalks, and Sands, commonly fare the worse for some of them; for, by their hot Nature, they help to impede, rather than forward, the Growth of the Crop. In this improved Soil, I must confess, you have great Reason to hope for the largest Crop of any of the Sorts of Wheat I sent you; and so of the *Fulham* Barley, which you very judiciously ordered me to buy and convey to you; because, by the Mixture of so large a Quantity of Marl with your Gravel and Sand, it is as fit for one Grain as the other.

Twentiethly,

Twentiethly,—Of a Gentleman's sowing his Orchard with Wheat.——You say you sowed Wheat between your Fruit-trees, and had a great Crop ; for so I call it, if every Thrave contains four Shocks, and every Shock contains six Sheaves, as it does in some Countries, and you had at the Rate of thirty Thrave to the Acre. Sure you must have plowed or dug this Orchard well, and dressed it as well ; or that it was new-broke-up Meadow-ground, otherwise I cannot find how you should have so large a Crop of Wheat. I know this Method is much practised in *Kent* and *Devonshire*. In *Kent*, among their Rows of *Flemish* Cherry-trees, which, as they grow in small short Bodies, and narrow Heads, in their gravelly Soils, the Plough has room to work long-wise and cross-wise between the regular Rows of these Trees ; and, when their Ground is well manured, and got into a fine Tilth, they have (especially in wet Summers) good Crops of Grain. But in some Parts of *Devonshire* they dig their Orchards with the Spade, because here their Ground is altogether furnished with Apple-trees, which they are forced to plant high, on account of their strong rocky Bottoms ; and therefore they durst not make use of the Plough, lest it tear the young Roots of their Apple-trees, and spoil their Plantation. And this they willingly do, as they believe one Digging with the Spade is better than two Plowings ; for with this Tool they can go deeper or shallower, as Occasion requires, kill Weeds, and work closer and safer about the Body of the Tree than any Plough can. But these are not all the Advantages that accrue to Orchards, by sowing Grain in them ; for, to sow Corn amongst Trees, the Ground must be worked first into a fine Tilth, either by the Spade or Plough, and well dunged or manured besides. Now, in so doing, Weeds, in course, must be destroyed, and the Ground kept clean

clear and hollow; then it is that the Roots of Cherry, Apple, Walnut, Plum, or any other Tree, receive the greatest Advantage; for nothing contributes more to forward the Growth of Trees, and their Fruits, than keeping the Earth about them well dressed, and in a fine Tilth; because, when it is so well husbanded, it lodges the Rain, and the Stalks of the Corn shade, shelter, and help to retain it against the parching Draughts of the Sun and Air. So far I think I have made it appear, that the Plowing, Dressing, and Grain, becomes serviceable in forwarding the Growth of Trees, and Increase of their Fruits in great Abundance: Benefits well known to the experienced *Kentish* and *Devonshire* Planters; who chiefly, by this means, get vast Quantities of Fruits, when those Orchards, who are always under Grass, have as little; because here the Fruit-trees generally run mossy, grow scabby, stunted and starved, for want of more Assistance than what the natural Ground they grow in gives them. In the next Place, I shall observe the Good and Evil that Trees do to Corn. By their Shade and Shelter Trees prevent the Damage of too great Droughts, and keep the Ground moist, much longer than if there were no Trees; and as Water is the Food of Plants, the Trees thereby receive the greater Nourishment. As to the Vices of Trees, it may be alleged, that Grain growing between them is more subject to Blights, than if it grew in more open Places, because here wants a free Air; and that their close standing causes Wheat, Barley, Beans, or Peas, to run much into Stalk, and little into Corn; but this chiefly happens by Trees not standing at a sufficient Distance. And though it may be also objected, That where the Spade is made use of instead of a Plough, it is a tedious and chargeable Work; to this I answer, That sometimes one Digging up of a

light Earth with the Spade, is sufficient for sowing Grain in the same for a Crop; because such Earth may not only be dug into a fine Condition at once, by digging it into slender narrow Spits or Parcels, but it may be dug so deep, that fresh Earth may be turned up to the Surface better than any Plough can do it, according to the following Account.

How a poor Man got an Acre of good Wheat without plowing the Ground. ——— I remember I once saw in *Berkshire* a Crop of Wheat, that made a very fine Appearance in the Month of *July*; the Ground it grew on, I think, was a dry Loam, that lay at the Back-side of a poor Man's House, and contained about one Acre. This Sight induced me to ask him, How he managed the Ground? He told me he kept no Horse, and therefore was obliged to carry out his Dung to the Land by a Wheel-barrow, dug it in with a Spade, sow'd his Wheat-seed broad-cast, and raked it in; and if I mistake not, there was at the Rate of near forty Bushels on the Acre. But to remove this Objection of the Spade, I shall shew how the late Patent-plough may be serviceably employed between regular Rows of Fruit-trees.

How the late Patent short light Plough may be work'd to great Advantage, between regular Rows of Fruit-trees, for preparing the Ground to sow Grain on the same. ——— To remove this Objection of the Spade, that it is too chargeable and too tedious a Way to prepare Ground for Crops of Grain, I have to propose the late short light Patent-plough for this Use, as being the best of all others to supply the Spade, and plow Ground between regular Rows of Trees; because this Plough, by such its Make, may be drawn by a Couple of Horses, near enough to the Bodies of Fruit-trees, to sow Grain about them, without damaging their Bodies, or their Roots; for this Plough may be made, as
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it is drawn along, to enter the Earth deeper or shallower, at the Pleasure of the Ploughman, provided its Share be made according to the Use this Plough is to be put to: And therefore, any Gentleman that sends to me for this Plough, is hereby desired to send me, at the same time, an Account of the Nature and Situation of his Soil; for according to that, I shall have the Plough made: And I do hereby advertise, that this excellent small Plough is such a one, that no Vale nor Chiltorne Farmer ought to be without it; for though (as it has no Wheels) some gravelly or stony Ground may be too hard for its being used at the first Plowing, or Fallowing-up of such Ground, yet it will answer even here in the second and after Plowings, to great Advantage; for this little short Plough will save one Horse's Draught in three or four, that are employed in drawing any Wheel or Foot-plough. This Plough is likewise very serviceable for plowing in any Grain, because it will plow Ground as shallow as can well be desired, and thereby prevent its being what we call buried, or covered too thick; which all other Sorts of Ploughs are apt to do, in a lesser or greater Degree. And, as to its Cost, the Price is twenty Shillings for a plain Plough, that may be easily sent by a Waggon, as it is of no great Weight; for a strong Man can carry it on his Shoulder a Mile or two without resting.

Twenty-first, — The Pleasure and Profit of planting Rows of Fruit-trees for Walks, Avenues, or Vistas. — You say, you have a broad Walk, with Rows of Cherry-trees up to a little Box of a House. This I think worth my while to descant on; and therefore have to observe, that Rows of Fruit-trees are preferable to most, if not all Sorts of Timber-trees, for adorning Walks, Avenues, and Vistas, to a Seat or House. An Oak is longer
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coming into Leaf than an Apple, a Pear, or Cherry-tree ; and when it is full furnished with them, there is only Wood, and perhaps in two, three, or more Years time, some Acorns besides, fit for only Swine ; and if its Timber is waited for to sell, it requires one hundred and fifty Years before most of these Trees arrive to their full Perfection of Growth ; so that this Tree is an improper one for Walks, Avenues, or Vistas : And so is the Ash, because this Tree comes into full Leaf as late as the Oak, bears no Fruit, and is one of the first that loseth its Leaf ; requires an hundred Years to be at its full Age, and, like the Oak, has no fragrant Smell : The Beach the same ; is unfit to plant in Walks, Vistas, or Avenues ; for this is one of those that yields no fragrant Smell, nor its Fruit of Beech-mast but once in three Years ; and then invites Swine to come where they are not welcome ; is an hundred Years growing to Perfection, and then its Wood sells but for Six-pence or Eight-pence a Foot. The Elm of a Timber-tree is the best of any ; for this Tree will bear the Knife and Shears better than either the Oak, the Ash, or the Beech ; and on this Account is preferr'd by many Persons to all other Trees whatsoever, for adorning Walks, Avenues, and Vistas ; and because it will admit of being yearly clipp'd into flat Forms, and thereby made (when planted near enough to each other) to join their Heads for composing an inclosed Walk, that their broad artificial Posture of Growth keeps somewhat secure from the Violence of Winds, and other Weather ; and in a moist Soil, will thrive, and grow faster than either the Oak, the Ash, or the Beech ; so that, in seventy Years time, many of these Trees have arrived to a very tall, and a very great Bulk of Body ; as those have now standing on *Gadaesden Green* ; where they excellently well keep off the Violence of fu-
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rious Winds from the Gentleman's Seat they stand before ; and are worth, when found, and at a full Growth, as much *per* Foot as Oak generally is. The next Tree I shall take Notice of, that is by many Persons planted for Walks, Avenues, and Vistas, is the Lime-tree : This Tree, I must own, is more valuable for the fine Sight, and healthful odoriferous Smell, of its Flowers or Blossoms, than for its Wood, which is good for little else than for the Turners Use. These, planted at twenty Feet Distance or less, make noble Walks, Avenues, or Vistas, in shading them from the violent Heats of the Sun, and breaking off the Fury of Winds ; and are valuable for their quick Growth into large Trees, in almost any Sort of Soil : And so is the Horse-chestnut-tree, for its expeditious Growth in various Earth, and yielding fine Bell-flowers or Blossoms, that perfume the Air about them ; which, with its very broad Leaves, are enough to cause Admiration in its Beholders ; for when these delicate Trees are full furnish'd with Leaves and Blossoms, they pleasantly hinder the Sun from scorching, and the Winds from blowing too boistrous, on those who come to refresh themselves in the Walks they are planted about ; and when their charming Blossoms are decayed and gone, then succeeds the largest of Chestnuts ; which, by their bright brown Colours amongst the broad green Leaves, make an ornamental Shew, and at last become a Food for Deer and Hogs. But its soft Wood is good for little else than the Fire : Nor will this gummy Tree, like the Oak, the Ash, the Beech, and the Lime-tree, well admit of being cut into any Form besides its natural Posture of Growth. Nor will the sweet Chestnut-tree agree with the Knife or Shears ; yet, if these are admitted as a Plantation to Walks, Avenues, or Vistas, they will grow in a good Soil, to almost the Bigness of an Oak, and
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its Wood sell for as much, and be as serviceable for many Uses, as Oak ; besides yielding, in some Years, great Quantities of sweet Chestnuts, that are valuable for the Use of Man and Beast. But still none of these Trees can be said to be annual Bearers of Fruit like the Walnut, the Apple, the Pear, the Cherry, the Plum, the Mulberry, and the Almond. The Walnut-tree, indeed, I cannot commend to be planted in Rows for Walks, Avenues, or Vistas, to a Seat or House, because these Trees yield a disagreeable unhealthy Scent ; and therefore are most fit to be planted at a considerable Distance from any Seat or House, to prevent their Smell being felt in any Part near the same : But the Apple-tree I do, for its Wood, for its Blossom, and for its Fruit ; for this noble Tree, if planted in Rows on a good Soil, and afterwards attended with artful Management, will grow into a large Body, and bear ten, twenty, or near thirty Bushels of Apples at a time ; the last Number of which, I think I may truly say, my large Parsnep Apple-tree bore in the Year 1744. A Tree so large, that on the First Day of *June* 1745. I measured its Girt, and found it, as high as I could reach, to be six Feet in Circumference ; and its spreading lofty Head to cover about two Pole of Ground in Breadth ; and yet bears an Apple of a good Size, so early, that they seldom fail of being ripe in Harvest, to the great Pleasure and Advantage of my Harvest-people and Family ; for which Reason, no Gentleman nor Farmer whatsoever, that can have this Tree in Growth, should be without it ; because its Fruit is ready for Use before others, eats pleasantly soft from the Tree, and makes the most delicious Pye and Tart ; and yet is so little known and planted, even about *Dunstable*, but five Miles from my House, that we there commonly meet with our best Market for these

Apples ; nor could I find, that any of the great Nursery-men near *London* have this same Fruit in any of their large Plantations. Here then is Pleasure and Profit ! What a fine Sight is it to see a Row of many Sorts of these Trees in early and late Blossom ! The Pippins in a Shew of Red, and others in whitish Colours, all yielding a most delightful View to their Beholders, and perfuming the ambient Air with their odoriferous healthful Scents ; and when the Blossoms are gone, and the Trees furnished with Fruit, what a charming Sight is it to see a numerous Progeny of many Sorts of Apples hang in various Shapes between the verdant Leaves, on Trees of different Forms and Make ; and at last, to please the Palate with tasting all, and eating most of those, whose nectarine Juice best pleases their Owner's Fancy ! Thus this most serviceable Tree gives its Master an agreeable Delight in the Field or Orchard ; but much more, when its racy Wine is drank throughout the following Year ; a Liquor, which, when extracted from a right Apple, and afterwards improved in the Cask by Care and Skill, exceeds, in the Opinion of many good Judges, the Wines of many good Grapes, though imported from foreign Parts at a great Expence. But this is not all the Profit of the Apple-tree ; for this Tree, in a stiff Soil, will well last an hundred Years, in a Fruit-bearing Condition ; and in the End, if its Wood is found, will sell for Six-pence a Foot. Next to the Apple-tree, the Pear-tree justly claims a Place in my Book, for its valuable Properties. This Tree I am surpris'd to find so little regarded as it is ; and did I not intend to write more largely of it in my Cyder-volumes, that I have made some Advance in, I would here be more copious in my Account of this serviceable Tree, that, I am sure, would well become a Plantation, if they were set
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to grow in Rows for a Walk, Avenue, or Vista, to a Seat or House; because this *Herculean Tree* will not only grow in any Soil, but also in the stiff Sort, to a very great Size; and run naturally up into a pyramidical Head; which still may be made more pleasant in Shew, if they are annually cut with Shears; for this Tree, next the Elm, will bear this Management, and grow, even if a little of its Bark is stripped quite off round its Body; because its large Pith will allow it a sufficient Ascent of Sap through it, to feed its Head; when, if the same was practised on any other Tree, I suppose, it would kill it. The white Blossoms of this are admirable, and so are many of its different Fruits, for present and future Uses, in Pyes and other Forms; besides which, the Juices of proper Sorts are a most healthful agreeable keeping Liquor; for a rich strong-bodied Perry has been known to retain its pleasant Virtue for many Years together: And, after a great Age, its sound Wood will sell for Nine-pence a Foot. Of this Species, I have now an Orange-pear-tree, one of the highest and biggest in the Country, that has, in a bearing Year, I think, returned me twenty Bushels of good-sized Pears; a Pear, that is always ripe in Harvest, of a pleasant Taste, but most delicious in Pyes; which Tree, with the Parsnep-apple Sort, would certainly prove very serviceable to any large Family; and which I furnish to Gentlemen and others at proper time of the Year. Whether you or your Ancestors planted your Rows of Cherry-trees, I cannot forbear praising their good Notion that incited them to do it; because these Trees grow as early as any other Standard Fruit-tree, into Leaf, Blossom, and Fruit. Of the Cherry-tree, I believe there are more than twenty Sorts; and pray, What Tree can yield a finer Sight than a large Number of different Sorts of them growing in Rows, and
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planted for Walks, Avenues, or Vistas, to a Seat or House. The white aromatic Blossoms of this Tree perfume the Air about it with a delicate Fragrancy. Its red, white, yellow, purple, black-colour'd Fruits, growing among their green Leaves, yield a wonderful fine Sight ; but their luscious Taste exceeds that of most other Fruits, whether eaten directly from the Tree, or in Tarts, or tasted in Brandy, or in Wine. The Wood of the Black-cherry-tree, if planted in a rich stiff Earth, will grow into a very large Body, a Body as big as most Oaks ; and at last, will fetch Nine-pence or Ten-pence a Foot ; as may be perceived in great Numbers of them, now growing in the Western Part of *Hertfordshire*. Of these I have Hundreds in my plowed and Meadow-fields in Rows, but most of the large black Kerroon Cherry, which I prefer to all others, for its many valuable Qualities ; and therefore I constantly keep a Nursery of the true original Sort, for furnishing Gentlemen with the same at a proper Season of the Year ; and this I was necessitated to do, because, in the Year 1743. I was sent to for some by a worthy Gentleman ; and, being out of my own Stock, was forced to search several of those Nursery-plantations about *London* ; but one of their chief told me ingenuously, they had not the true Kerroon Cherry-tree amongst their great Numbers. The Plum-tree is likewise a valuable Tree ; will grow into a Body of a tolerable good Size, if planted in a stiff rich Earth ; appear in fine Blossoms ; and afford a great Variety of pleasant Fruits, chiefly for present Use ; and at last, if their Wood is sound, will fetch Nine-pence or Ten-pence a Foot from the Turner : And therefore, this Tree may be planted in Rows for Walks, and give the Owner both Pleasure and Profit. And so may the Mulberry or Almond-tree ; the latter of which Sort is of late got into great Reputation, for its most early and pleasant scarlet Prospect,

while in Blossom, and for its Fruit afterwards, if it is of the right Sort. But, to proceed :

Whether an intire grasing Farm is more profitable than a Farm containing both plow'd and grasing Land.

—— You say you have laid down a good deal of Ground within these few Years for grasing ; for that plow'd Ground has paid but ill these last Years, and grasing not much better ; and that you had once a Design to lay all your Land down as fast as Conveniency would let you, and keep no Team ; but that, at present, you can't see it will be best so to do. To this give me Leave to send you an Answer ; which is, that if you graze all, or plow all, your Land, you have the less Chance for Profit ; for, according to the Proverb, *Two Strings to the Bow are safest* ; and so it is with that Farmer who occupies both Sorts of Ground. If a dry hot Summer should happen, and he grazes all, his Grass may be what we call burnt up ; that is to say, the Weather may continue so long dry and scorching, as to prevent the Growth of his natural Grass into a profitable Crop : And then, What Condition must such a grasing Farmer be in ? Why, the Cattle that he bought in to fat on such Ground, must work hard with their Teeth to keep themselves alive ; and the Ground that he shut up for Hay will yield hardly any. Here then is a dismal Prospect for a Farmer ; not only his Rent cannot be paid, but there is little or no Subsistence for his Cattle in the Winter. Witness the Case that many *Middlesex* Farmers have sometimes been in, who pay the largest Rents for their grasing Ground, are at a great Charge to bring home Dung and Manures from *London*, and yet suffer the more in such scorching Seasons for well-dressing their Land, because the more they dress, the more their Grass burns away. But it is not altogether so with that Farmer who rents both grasing and plowed Lands ;

for if, in a scorching Summer, his Grass is prevented growing into a profitable Crop, yet his Wheat, and other Grain, may grow the better for it: Witness the great Crops of Corn that grew in Fens, Vales, and Marshes, in the very dry Summers of 1740, 1741, 1742, and 1743; for here their moist low Grounds yielded prodigious Quantities of Grain, Wheat especially, that greatly enriched their Farmers: And, if I may write from Experience, who have both meadow and plowed Grounds, I can affirm it for Truth, that though most of my Grass-ground is Upland Meadow, and that has a moist loamy Bottom; yet, if it was not for my plow'd Land, I could not maintain my Family, and pay Rent for that Part of my Farm, which I rent of the Parson of our Parish. In the next Place, I shall answer your Article about giddy Sheep; which is so fatal a Disease in these Creatures, that they seldom get cured of it. However, I shall give you my Sentiments on this Matter as followeth, viz.

The Case of a Gentleman who suffered a Loss by the Disease of Giddiness in his Sheep.—— You say, the other Day you lost a Sheep by the Gid, or Giddiness; and that you have searched my Books, and asked the noted Sheep-buyers for a Cure, but to no Purpose; and that you have now one or two more going into the same Way; yet you think there may be a Cure for it, and that it is a Pity it should not be made known. I say so too; and many more Things that are known, and yet never published; for which Reason I hope, if I have an Opportunity, to send into the World a small Treatise, chiefly relating to the improving of this useful and most valuable Creature; which, as it will contain many curious and serviceable Matters, is fitter to come into the World in a select Volume, than in a monthly Book of Husbandry. But to the Matter

in hand: This Disease in Sheep and Lambs, I take to be somewhat like that of the Staggers in Horses, which, in them, is allowed to proceed from the Corruption, or the Plethory of Blood; the Occasion of which, I presume, may likely proceed from the Sheep feeding on unwholsome or rank Grass, such as many low spewy Grounds, and others, abound withal; not but that it is evident, by many Examples that have happened, that Sheep are subject to this Disease, by the Breed of one or more Bladders of Water that lie contained between the upper Part of the Skull and the Brain. In either Case, this Creature is seldom ever cured of the Misfortune; though I have known both Sheep and Lambs linger a considerable time under the Distemper, but with little or no Improvement to their Flesh: And therefore it is a thing common, when a Farmer has a Sheep or Lamb troubled with Giddiness, and it has Flesh enough on it, to kill it for his own Family Use; or if it is one that is seized with this Malady while it is fatting, then it is usually sold to the Butcher, to make the most of it. Now, if this Distemper proceeds from a Plethory of Blood, the Eye-vein that lies on the Side of the Sheep's Face, should be opened with a Penknife, or other sharp Knife, long-wise: And, by this means, the Lives of many Sheep have been saved. This Method ought to be first put in Practice as soon as a Sheep or Lamb is perceived to go giddy, or turn round; for by this circular Motion the Disease is known: But, in case this fails, take a lighted Pipe of Tobacco, and put the small End of it into a Nostril, and, with a Piece of Linen-cloth laid over the Bole, blow the Smoke through the Tube of the Pipe, that it may be forced into the Head of the Beast; and do the same to the other Nostril at a little Distance of Time, that the Smoke may be forced into the Head of the Beast. This has
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been found efficacious ; but I can't say this is a certain Cure. However, if this fails, the last Thing to be done, is to make an Incision into the Skull, with the End of a sharp Knife, and take a Piece of it out, to see if there are one or more Bladders of Water lie on the Brain : If there is, take them out very tenderly, and as quick as possible ; then put in the Piece of Skull, and a Plaister of Burgamot Pitch on the same. This has sometimes saved the Life of one Sheep in about three or four : They that mostly fall under this Misfortune are Lambs and Tegs ; for seldom any Sheep fall giddy, that are three, four, or more Years old ; and then their Skull-bone is so tender, that an Artift is said to feel the Bladder of Water under it, on which he opens the Part just over it.

How a Gentleman, on trying a Cleansing-sieve sold him by this Author for selecting the best Seed of Wheat or Barley, sent him his Approbation of the same.—

You say you have received my Sieve for cleansing Corn, and have try'd it to your Satisfaction. It is one of the greatest Pleasures I enjoy, to hear, that any thing I advise a Gentleman to, succeeds to his Satisfaction. Since I sent you this Wire-sieve, I have had another Sort made with Splinters for much the same Purpose ; notwithstanding which, they are both perfectly necessary to be employed in curing of Wheat and Barley-feed, even after such Seed has been made to pass through the common Sieves, and the great tall Wire-screen in Use with most Farmers : For this Wire Hand-sieve, by the Make of its Wire, will let out the longest Seeds of Darnel, and other Seeds of Weeds, and also the longest thinnest-bodied Corns of Wheat or Barley, to the very great Advantage of all that sow such selected Seed. The other Splinter-sieve is contrived to let out the more round Seeds of Darnel, and other Seeds of Weeds ; and reserve the largest Wheat-kernels for sowing :

sowing : Both which are absolutely necessary for all Gentlemen and Farmers, who occupy plowed Grounds, to have, because on the Goodness of the Seed very much depends the Goodness of the Crop : And he that will lose a Sheep, or Hog, for want of an Halfpenyworth of Tar, deserves to be deemed a bad Husbandman ; a Comparison, in some degree, that affects the Use of these two Sieves ; for, as the Charge of them is little, the Service of them lasting, and the Profit of them great, it must be ill Money saved, when those, who have occasion for them, refuse to buy them ; the prime Cost of the Splinter Hand-sieve being but half a Crown (for it costs me two Shillings) ; but the Hand Wire-sieve will be will be more : And I am ready to send them to any Person in any Part of *England*, or elsewhere, on a proper Order, as I have of late done several. In the next place, I shall endeavour to make it appear to you, how beneficial this Way is, to obtain a large Crop of Wheat or Barley, by selecting the largest Seeds of either by these Sieves. I know of but one Farmer, besides myself, in our Part of *Hertfordshire*, that refuses to buy gleaned Wheat for Seed ; and he is one that has suffered for so doing, and learned the Experience of this Evil by his own Cost ; for notwithstanding he rents a Farm of about eighty Pounds a Year, and has several inclosed fine Fields of various Sorts of Earth, situate near a Mile and an half from me, and is esteemed for being one of the most judicious Farmers in our Country ; yet fell into this Mistake of buying gleaned Wheat, to sow for a Crop ; because, they say, gleaned Wheat is the cleanest and freest of all others from the Soil of Seeds of Weeds ; and because there are more Kernels in a Bushel of such Wheat than in a Bushel of the larger Sort : And so I say, that this is certainly true ; but then there is such a bad Quality belonging to it, as by
much

much exceeds these good ones; and that is, that most of the Ears of Wheat that are picked up and gleaned by Leazers, are of the refuse smaller Sort, that contain in them the leanest Kernels; for the larger Ears are the easier taken up, and put into Sheaves, while the smaller ones elcape the Hands of the Binder, and fall to the Gleaner's Share. Now such small Ears have commonly the leanest Kernels, and those perhaps not above half the Flower in them, as the larger Kernels have that grow in the biggest Ears, and are full ripe at Reaping-time; for there is a great Difference in the Ripeness of Wheat, as well as of other Grain. Some Ears are then full-ripe, when others are but half-ripe or greenish. Hence it is, that most of the gleaned Wheat-ears are those that are latest ripe, occasioned from Kernels that have received a Damage by the Tread of Horses at Sowing-time; or that such Damage has proceeded from sowing a diminutive Sort of Seed. And here I dare appeal to those Farmers, that have sown gleaned Wheat-feed, whether they have not had, in Return, considerable Quantities of Pepper-wheat among their Crops? If they have, when their Crop was near ripe, or quite ripe, they might see an ugly unprofitable Sight of speckled Ears amongst their good ones, that are so many Pepper-wheat-ears, and good for little or nothing; for the Kernels of such Wheat are blackish and roundish like Corns of Pepper, and yield no serviceable Flower, stain the good Wheat, and damage it for Sale and Sowing. But, to describe this Sort of damaged Wheat more plainly: As soon as the Bloom is off the Wheat-ears, the Kernels of Pepper-wheat may be perceived, while the Ear is in its green Condition; for even then its Kernels will appear blackish through the Huse or Hull of their Kernels; but the more, as their Ears grow ripe; for then they may be seen more plainly, be-
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cause these Ears shew themselves blackish, while the sound Ears look whitish or reddish ; and thus they occasion the Crop to look speckled, as being of two Colours. But, to shew further, that Pepper and smutty Wheat proceeds, for the most part, from defective Kernels ; Pepper-wheat-ears have sometimes lean sound Kernels in them, from the Roots not being able to perfect their full Growth ; and in smutty Ears, the Defect appears still greater, because their Roots were so weak, as not to bring any Kernel to the Perfection of Soundness ; for where a sufficient Substance of Flower is wanting in the Seed-kernel, there generally wants a radical Ability to perfect the Ear, and its Grains. This proves those Farmers, and others, most highly in the wrong of it, that prefer leased Wheat as the best Seed to sow for a Crop, for the foregoing Reasons, which I would, if it was convenient, maintain against any Objector ; for the Matter is so plain, that, I think, I don't stand in need of the Pen of a Logician to prove my Thesis ; yet I have been forced to submit to the wrong Notion of more than one Person on this Account, particularly to that of a great Man's, who pretended to maintain, that there was no Foundation in this my Argument on this Account ; *viz.* that by the same Rule that a short Man may be as strong as a taller Man, so a small Wheat-kernel may grow as well as a larger one. To which I here answer, That this Gentleman (who is a Person of Honour) was in the right as to this Difference in Men ; because a short Man may have as large Bones and Sinews, and other component Parts, as a taller Man. But this Comparison does not hold good with a Wheat-kernel, because a thin-bodied little Wheat-kernel has no ways the Substance of a large one ; consequently, then, the small one must fail to answer the same Produce that a larger one can : And it is evident, that

that the chief Principle of Vegetation not only lies in the good Quality of the Flower of a Seed-kernel, but also in the Substance of it. Don't we see this Parity proved in the Breed of Beasts? The small Species of Horses are not so large and strong as the bigger Sort; Cows, Hogs, Dogs, and Fowls the same. This Consideration makes the *Alesbury* Farmer so nice in collecting his Wheat and Bean-feed. For the first, several of them endeavour to get it from off fresh Ground; that is to say, Ground that has laid under Grass many Years; and, on plowing it up well, they sow it with pure Wheat-feed, that returns a fine clean large Sort. And they are no less careful to procure a large Sort of Horsebean-feed; to obtain which, they have a particular Sort of Hand-sieve, that lets through the smaller, and reserves the larger Kernels for sowing. Again, I am sensible, that some Persons maintain this Argument, That if a Farmer sows small or large Seed, it is equally the same as to a Crop, provided he sows the same on good Ground; because a rich Soil, and propitious Weather, will cause a small Kernel to grow into a large Stalk and Ear. This, I must confess, seems to be the strongest Argument these Opponents have of their Side. To answer which, I say, That a lean Kernel of Wheat may possibly, by such extraordinary Assistance, grow up into a large Crop. But let me ask them, What will be the Issue of sowing such thin lean Kernels in a poor Earth, as *England* mostly abounds with? Why, the Argument must then be on my Side; and what I have advanced to prove the same, ought to be allowed, by all judicious Persons, as the very Truth of the Matter: And the rather, because all thin lean Kernels of Wheat-feed produce, in such a poor Earth, a weak Root; one that is not so able and capable to resist the Severities of Frosts, Winds, Inundations of Waters, and other Accidents,

dents, as the stronger Roots of larger Kernels can : A Subject of that Importance, that I cannot finish it before I further shew,

Why all Gentlemen, Occupiers of plowed Grounds, and also all Gentlemen that rent the like, ought to have two particular new-invented Hand-sieves, that discharge the Seeds of Weeds, and the smallest lightest Kernels of Wheat and Barley, through them, and reserve the largest and best of their Seed for sowing. — From what I have before written on the Benefits that will arise from the Use of Wire and Splinter Hand-sieves, I have here to add, that it is absolutely necessary for all Gentlemen, who keep their own Lands in their Hands, and also for Farmers, who rent the like, to provide themselves with these two cheap Hand-sieves by the first Opportunity ; and the more, because as Grain sells at present, and may do hereafter, for a low Price at Market, hardly any will sell to Advantage, unless it is of a large good Sort, clear of the Seeds of Weeds, and from being tainted by smutty and pepper Wheat, &c. This is a Matter of great Consequence, as two Years Rent lies on the Wheat-crop ; a Matter well known to Sellers of Wheat, Barley, and other Sorts of Corn, who must be sensible of the great Difference that there is between a Sack of clean large sweet Wheat and Barley, and another that has Seeds of Weeds, or is otherwise damaged. Witness the low Price that is generally offered for a Sack of Wheat or Barley, and Oats that are tainted with the Crow Garlick-weed, the Melilot-weed, and the May-weed ; the two first of which infect Corn to the last. Witness the same with respect to those Seeds of Weeds of Darnel, Crow-needle, Burs, and Cockle, that can hardly, by common Sieves, and the great tall Wire-screen, be got out from amongst the Grain : And indeed I believe I may assert for Truth, That the Increase of Weeds

is chiefly owing to the sowing of them again ; which is a Fault that many bad Husbandmen are guilty of to my certain Knowledge. And here I take the Opportunity of acknowleging the great Obligation I am under to a certain generous Gentleman ; who, notwithstanding his plentiful Estate, condescends to study Improvements in Husbandry ; and, among others, invented this Wire Hand-sieve : One of which he sent me by the Carrier, as a present, though I never saw him, and was a perfect Stranger to him. An Example worthy the Imitation of others ; who, by applying their Minds to the Study of Improvements in Husbandry, may probably discover some useful Things for the Good of their Country : And no one is more likely to do this, than those Gentlemen who have Power and Will ; for where Power accompanies Will, many Things may be brought to Perfection, that, if attempted by meaner Persons, may prove to them Labour in vain. And indeed, on this very Account, I think I have Reason to lament I am not so much encouraged in my Work, as to be enabled to make more useful Discoveries in the Arts of Husbandry and ——— than I do : For the Charge of settling and carrying on Correspondencies, and riding to particular Places, where I hear a new Improvement is to be learned, is not attended with a little Expence.

How a Parcel of tame Pheasants were safely sent to a Gentleman, by a common Carrier, many Miles, in order for his increasing their Breed in the tame Way, and how it may be done to great Profit and Pleasure.

— You say, Sir, that the tame Pheasants are all alive, and like to do well, that I sent you by the *Warwick* Carrier : I am the more glad to hear it, because I was informed, that one of them made its Escape out of the lath Hutch I sent them in, as the Waggoner drew up the little Door to put some

Meat into their Apartment; but, being bred and brought up truly tame, I understand the Man had not much Trouble to take it off a low Tree that it settled on. I do assure you, I took particular Care to send you those that were so well tamed and fed, and in good Health, that they were designed to be kept for Breeding, and not sold. But as I have found you to be a generous Gentleman, I thought myself under a strict Obligation to send you those that would fully answer your Design of breeding such a yearly Number, that may be of great Value to you, and of Service to the Country about you: For your Designs, in many respects, are nobly founded; particularly in this one of attempting a new Piece of Husbandry, to increase these Kingly Fowls, and be one of those that endeavours to replenish your Country with a full Stock of these most beautiful Birds; that, by the great Number of Game-keepers, have of late been so destroyed in their wild Life, that, had not this Method been taken to propagate their Species in the same Way, our Nation, very likely, had been deprived of the Breed of the best of Wild-fowls. And, on this Account, I must write in Praise of our *English* Gentlemen; who, though it is in their Power to act the severe Part, by putting the Law in Execution against some petty Farmers, who, to enable them the better to pay their Rents, have taken upon them to breed these tame Pheasants; yet are so good as to forbear prosecuting them on the Game-Act, which lays them under the Penalty of forfeiting five Pounds, for every Pheasant found in their Custody. And, in my Opinion, in using such Lenity towards them, a great Service is done by this means to the Country in general: For, in course, this charming Table-fowl, by this means, will, in a few Years, be bred in such Plenty, as to be bought at a very moderate Price; and this without

out doing any Harm to the Neighbourhood they are brought up in; because, as they are thus made as tame a Fowl as a Dunhil-hen (nay, much tamer, on account of their Confinement), they cannot offend any Neighbour. On the contrary, all those that breed and bring up tame Pheasants, I think, may be justly said to do the Country Service, as I have before remarked; in that they employ some Part of their Arable Land for getting *English* and *French* Wheat, Barley and Oats, Cole, and Turneps; for some or all of these Meats, in their green and ripe State, are a necessary Subsistence for Pheasants in the Summer and Winter Seasons. These tame Fowls likewise help to employ the Poor in looking after their Young, to keep them safe from the devouring Hawk, and creeping Vermin, to provide Emmets Eggs for their Pheasant-poults, during a few Weeks of their infant Growth. It is these petty Farmers, and others, that please Gentlemen in an high Degree, by furnishing them with Pheasants at any time of the Year, and thereby give them an Opportunity to add one of the best of Dishes to their other Variety of Viands, and make their Feasts and Entertainments the more agreeable to their best Friends. It is these delicate Fowls that occasion the Circulation of Money, by their Sale to Higglers, &c. for the *London* Markets, and for those of other Cities and great Towns; for I dare say, if the Breed of Pheasants meet with its due Encouragement, they will not fail to become one of the most trading Fowls (the Dunghil-sort excepted) in the whole Nation. And it is my further Opinion, that the Breed of tame Pheasants ought to be more than ordinary encouraged, as it gives Gentlemen an Opportunity to furnish their Woods and Fields with a wild Breed at an easy Expence; for here they may revive the antient Number of wild Pheasants, if they will oblige their Game-keepers

keepers to leave every Year a sufficient Number of them to renew their annual Breeding, as is commonly done by Partridges; and allow a Farmer, who is the sole Maintainer of them in their wild Life, a little Encouragement for their Preservation. Then it is that Gentlemen may safely attempt the Breed and Increase of wild Pheasants; for that such Encouragement would provoke every Farmer to become a Preserver and Protector of this noble Game. And indeed it seems strange to me, that Gentlemen should give their destroying Game-keepers so much for killing and bringing home a Pheasant, a Partridge, a Quail, and other Game, besides their standing Wages, and yet forget to allow a little Privilege to a Farmer; who, as I said, maintains these Birds, and has by himself, and by his Servants, an Opportunity beyond most Game-keepers to preserve them, and further their Increase. But one main Article is still behind, and that is, that by Gentlemens allowing petty Farmers, and other unqualified Persons, Liberty to breed, bring up, and sell tame Pheasants, their Landlords will have the better Reason to expect prompt Payments of their Rent, the Parish of their Rates and Taxes, Servants their Wages, and Tradesmen their Bills: A Matter of great Consequence, how little soever this may seem at first on a Representation of it. I know more than one of these petty Farmers that carry on the Business of breeding tame Pheasants: One of which frankly told me, he thought sixteen tame Pheasant Hens, that he constantly kept to breed by, brought him in about thirty Pounds a Year clear Profit; which discharged the Rent of his small Farm, and enabled him to maintain his Family tolerably well. In this Month the young Pheasants are fit for sending to distant Parts, and so in *August, September, October, &c.* Therefore, if any Persons think fit to send me a proper Order,

Order, I will supply them with the profitable tame Fowls.

Of Ploughs and Plowing.——You say, Sir, you make use of a strong long crooked Beam-plough, drawn by five or six Horses in Length; and that it is the Notion of your Farmers, a small Plough and Drill-plough, will not do with you. To this I answer, That the Number of Horses, and Strength of your Plough, shew that you occupy a very stiff strong Soil, which you plow with what some call a Foot-plough, though I suppose you work it without any Foot on it. Such a Soil I must own requires to be worked with your Sort of Plough; but give me leave to hint to you, that it is my Opinion, you should, besides that, have the late Patent-plough. Your Foot strong Plough to break up your Fallow-ground, and this to work it in afterwards at the stirry times, and at the Sowing-time; for this Patent-plough is so short and light, and yet strong, that it may be as well drawn by three Horses, as your Foot-plough can with four or five; because this Patent-plough performs its Work with the least Clog of Dirt, and, at the same time, turns its Furrow the best of any Plough. This it will do in stiff Grounds, where-ever a Foot or Swing-plough can be worked. And therefore I am persuaded, that if Thousands were truly sensible of the great Advantage, which attends the Use of this excellent cheap Plough, they would have it with all Expedition; and the rather, because it is so short and light, and without Wheels, that it may be conveniently conveyed to a distant Part by a Waggon, as well as by a Ship. This, I say, is a Matter of great Consequence, both to the small and to the great Farmer, and that for the following Reasons: First, To the small Farmer: For as he rents not Land enough to employ a long Team of Horses, a short Team will do more and better Work

Work with this Patent-plough, then they can with a longer, stronger, and heavier Foot or Swing-plough; and, by this very means, he may keep one Horse less in four, and do his Plowing-work as well, as if he kept four, to the saving him a considerable Expence and Trouble in only one Year's time. Secondly, This little light Plough is likewise very serviceable to those great Farmers, who keep two or more Teams at Work, to plow their great Quantities of Ground; for in making use of this Patent-plough in stirry and sowing Seasons, he may save the Draught of one Horse in each Team, two in all; the Charge of keeping which is saved, and the Risque of Distempers and Accidents incident to these serviceable Creatures avoided. Thirdly, This Plough is particularly valuable for its working more free from clogging, and carrying Dirt with it, than any other Plough, as it is the shortest and lightest; and therefore the less Labour is required to hold and work it: A Matter of great Importance; because, by this very means, a Boy, or weak Man, may not only be able to work this Plough, but do more Work with it in a Day, than he can with a heavier clogging Sort. What a Load of Dirt do some Foot and Wheel-ploughs carry with them in wet and greasy Weather? I don't doubt, but that sometimes one of these Sort of Ploughs is loaded with twenty, thirty, or more Pounds Weight of such Dirt; and then pray what must a Team of Horses, a weak Man, and the Master of both, suffer? Why, the Horses must lug, toil, and draw very hard and softly in a stiff Earth, when it is in this muddy greasy Condition; and perhaps get raw-shouldered, crack'd Heels, sweat, catch Cold, and lose their Flesh and Stomach, and some their Lives. So the Man must likewise labour to Excess, in holding this loaded heavy Foot or Wheel-plough, more especially when the
Horses

Horses come to turn at the Land's End ; for he had need be a strong Man indeed, to bear up and carry the greatest weighty Part of such a Plough, so clogged and loaded with a sticky Earth, only but while it is turning round for beginning to plow a new Furrow ; and, considering the great Fatigue he thus has, at the many Turnings at Lands Ends ; and the more, where this Plough-work is short, and the Turnings, by that means, are oftener made ; all which, I say, makes the Man's Work very hard, and obliges him to go on so slow, that the Horses and he, very probably, cannot plow above one Acre in a Day at stirry times, when the Earth is in a looser Condition than at Fallow-time ; for the harder it is, the less it sticks to the Plough ; whereas, if this little Patent-plough was made use of, instead of a Foot or Wheel-plough, to work in a stiff Earth, even in wettish greasy Weather ; I dare answer for it, that if the same Number of Horses were employed to draw it, they would, with as little Labour, plow one Acre and a half a Day, as they would only one Acre with a Foot or Wheel-plough. If this be the Case, how much must the Master lose for want of such a serviceable Plough, as this little Patent-one is ! I will not here enter into Particulars of it ; but leave it to my Reader to estimate it ; which he may the better do, if he takes notice of what I have before written of the same : And, I hope, I have said enough to convince many of the great Value of this cheap light Plough, to work in Vale and Chiltune loamy Lands, and invite them to purchase it as soon as they can ; for as the Patentee has lost the Benefit of his Patent, by a Law-suit try'd at *Westminster*, it is now to be had of me, free of all other Charge than paying for the Wood, the Iron, the Workmanship, and the Carriage ; and which, on a proper Order, I will send to any Part of *Europe*

or *America* ; and so any other Plough and Instrument of Husbandry, Trees, Fowls, and other Things that I have, and shall further advertise. But, to finish my Proposal of Ploughs and Plowing ; the next thing I have here to do, is to write a word of the Drill-plough, which your Farmers say will not do in your stiffish Soils : I agree with them in this Particular ; for I never said, that the Three-wheel Drill-plough would answer in all Sorts of Land : No ; I know it will not ; for sowing Wheat and Barley out of it in stiff low wettish Vale-lands, I cannot recommend it : Yet even here it will answer in sowing Horsebeans out of it, where Acre or Half-acre Ridge-lands are apt to be full furnished with Carlock, because Hoeing between the Drills will kill this destructive Weed. But the chief Service that the Drill-plough is of, is to sow Wheat, Barley, Peas, Turnep, Cole, and Lucern-feed out of it in dryish Loams, that are free from large Stones : Here, indeed, it will clear the Ground of Weeds, and return, for many Years together, surprising large Crops of Grain, and those other Vegetables I have before mentioned, with the Help of but very little Manure.

Thus, Sir, I have endeavoured to send you Answers to your several Particulars, and should be glad to hear they give you any Satisfaction ; if they do, I am sure you are more deserving of it than Hundreds besides ; who either are above consulting my Experience, or negligently forbear to do it. For my Part, I am not only ready, but very joyful, at any Opportunity of employing my slender Capacity, for making it contribute to the Satisfaction and Service of any Gentleman whatsoever.

C H A P. XII.

Of preserving Wheat sound and sweet.

AN Introduction to the Account of buying and preserving Wheat sweet and sound a long time. — In my Monthly Book for June, intituled, *Agriculture improved, or, The Practice of Farming display'd*, I have largely written on this Subject of buying and preserving Wheat sound; but have not there given the most particular Account how Persons may know what Sort of Wheat is the properest to buy, and lay up in a cheap time, against a rising Market; nor how to buy Wheat that is in a right Condition to lay up in Store; which is an Article of the utmost Importance to all such as are ignorant of the same, and yet venture to lay out their Money in this Commodity, to advance it by an increasing Price. And although Mr. *Worlidge*, and the most ingenious Mr. *Jethro Tull*, has given some Account of keeping Wheat by way of magazing it; yet neither they, nor any other Author whatsoever, have ever yet published such instructive Particulars as can inform an ignorant Buyer of Wheat, how to prevent his being imposed on. This is a Matter of such Consequence, that, for want of a plenary instructive Account of it being made public, Thousands have committed such gross Mistakes, as have proved not only a great Loss to themselves, but, in some Degree, a Damage to the Nation in general. *For Example*, When great Quantities of Wheat are laid up in a bad Condition, or, if laid up in a good one, and becoming spoiled afterwards by ill Management, the Owner suffers in the first Place, and the Country afterwards, as being thereby deprived of so much good Wheat: A Loss that might have been easily prevented, had

the Person been Master of a Knowledge sufficient to inform him how he might have bought a right Sort of Wheat in, and kept and preserved it in a sweet sound Condition: And therefore, I have thought it more than ordinary necessary to send the Account I have written in the Month of *June*, as well as this following one, into the World, to prevent these private and public Losses; and the rather, because this Affair of laying up and magazining Wheat, engages not only great and able Farmers, but also Gentlemen, Traders, and others, to become, as it were, Merchant-adventurers, in the buying and selling of this ready-money Commodity; a Business very enticing on this and other Accounts. I know several that carry it on at this time, without so much as hardly appearing in it in Person; and they are those that hire a Loft or Granary in a Market-town, situated so near the Market, that Sack-carriers or Corn-porters convey the bought Wheat on their Backs to such Loft or Granary. One Gentleman, as I have formerly mentioned, last Year, 1744. and this, bought up, as I have been inform'd, five Sacks of Wheat, that were shot and emptied in a Granary hired for this Purpose, to lodge and keep it against a rising Market; and yet, I believe, never was seen in the Market to buy any himself, because he employed a skilful trusty Man to do it, one whom he reposed a Confidence in, as to his Knowledge and Honesty; but, the better to be on a sure Footing with this Agent, he pays him, as I understand, so much a Sack for buying, looking after it while it is in the Granary, and selling it afterwards. Another is a Lord's Gentleman, who, having saved in his Service a sufficient Quantity of Money, employs some of it in this Way; and who, being ignorant himself of buying a true Sort of Wheat to lay up, employs one that gets Part of his Bread by carrying Sacks of Corn on a Market-

day for Farmers, to buy a proper Sort of Wheat to lay up for him at the lowest Price, and sell it for him again when he thinks an encouraging Opportunity offers. Thus he turns the Penny on the Lottery, as it were, of buying and selling Wheat; which, as it is the King of Grain, never wants a Market at some Price or other, if it is in sound sweet Order at the time of Sale. The next Class of Buyers and Store-keepers of Wheat, that I shall take Notice of, are Farmers Servants: These, by their Occupation, are proper Judges of good and bad Wheat; and as some of them have been good Husbards enough to save Money by their several Years Service, employ it in this Way of buying and laying up of Wheat in a Market-town, in Hopes to make a Profit of it; and this he does generally by some Friend, whose Business is otherwise to attend at Market every Week; for he himself has not always Time nor Opportunity to do it: And some of these have been so successful as to continue this Business Years together: And if such an one's Pocket does not enable him to buy Wheat enough to defray the Charge of a Loft, &c. then I have known a Farmer's Servant (who, by his diligent Service, has obtained Leave of his Master to go now-and-then to an adjacent Market for this Purpose; particularly a Tasker, who threshes out his Quota of Grain in the usual customary limited Time every Week) engage himself with a Tradesman to help him out; the first to find Judgment and Money, and the last to find Money and Attendance; and in this Manner have gone on well, not only in buying and selling of Wheat, but likewise by doing the same with other Corn. The last Sort of Buyers or Traunters of Wheat that I shall here mention, are mere Tradesmen, who, having spare Money, and a Fancy to employ it in this Business, in order to have two Strings to their Bow,

for a Living, set up for Buyers and Sellers of Wheat only ; and though they themselves are not sufficient Masters at present of the Secret, yet venture to be Dealers in it, by seeing through other Mens Eyes, and trusting to their better Judgment, in Hopes to become such Proficients themselves in time, by repeated Purchases of this Grain, as to learn to know a right from a wrong Sort, and deal in it without the Help of any. Instances of this there are many to my Knowledge, some of whom get, while others lose. But whoever he is that endeavours to turn his Money in this Way to Profit, he ought to be a good Judge of what he does ; because, if ten or fewer Sacks of damp Wheat are mixed with Hundreds of dry Wheat, the Whole, if kept any time, will certainly be damaged by them ; and if kept long, the little bad will infect the great Quantity of good, cause the Breed of Weevils, and perhaps spoil the whole Heap. In short, to prevent then the Damage that Store-wheat may occasion, both to the private Person as well as the public, I have drawn up the following Account, not built on Probabilities and uncertain Theory, but published from a Market-practice of many Years Experience, and from one of the best Markets in *England* for Grain, as *Hemsted* is justly allowed to be ; for to this Market Wheats are brought from great Distances ; and, I believe I may say, from off all Sorts of Soils, and perhaps in such Variety of Species, that few Markets beside have the like.

When Wheat is best bought to lay up in Store for long Keeping. ——— This Article is of considerable Importance to regard, because Wheat cannot be laid up too dry for keeping, and it seldom arrives to a true Dryness in Barn-stack, nor any-where else, till the Winter is past ; for although it is housed dry, yet it may receive such a Dampness afterwards as to make it unfit to be laid up for Store, for want
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of lying long enough in the Straw; therefore it cannot be said to be rightly ready for the Flail, and threshed out to keep long in a Loft or Granary, till *March*, when the Winds of this Month are generally of such a drying Nature, as to affect all Things above Ground little or more. I say, in *March*, or in any other of the subsequent Spring and Summer Months; for upon this depends very much the good or ill Success of keeping Wheat long; and to know when Wheat is truly dry, sweet, and sound, is the chief Art of a Buyer and Store-keeper; and therefore I shall, in the next Place, proceed to give such an Account as never was done yet, how Wheat may be rightly known to be thoroughly dry, sweet, and sound.

Several new Ways never before published, how to discover whether Wheat is thoroughly dry, sweet, sound, and fit to be laid up for long and profitable Keeping. —

I am now come to treat on one of the chiefest Articles relating to the Preservation of naked Wheat in a dry, sweet, and sound Order a long time; without the Knowledge of which, it is in vain for any Person to commence Wheat-buyer, and attempt to lay up Sale-wheat, for keeping it against a rising and profitable Market. This is an Art that consists in more than four several Particulars, *viz.* in seeing it, handling it, smelling it, biting it, &c. And first, I shall begin with discoursing on the Looks or Sight of Wheat, as it stands to be sold in Sacks in the Market. The Sense of Seeing is perfectly necessary to be employed in this Business, because a right Colour is an Indication, in a great Degree, of the Goodness of this Grain. Wheat that has a bright fine brownish Cast, whether it be a red Lammas, a yellow Lammas, or a pirky Sort, is valued the more by good Judges, for being of this Colour; which shews, that such Wheat had little or no Rain fell on it, nor while it afterwards stood

stood in the Field ; consequently such Wheat must be got into the Barn or Stack in exceeding good Order ; and the better still, if it is cut not too soon nor too late : If it is cut too soon, the Colour indeed may be tolerably good, but the Kernel will be somewhat shriveled and guttery ; and if it is cut too late, it will have a full Kernel. but a deadish Colour and Flour : Therefore, when Wheat is almost, but not so full ripe, as to begin to shed out of its Huse, it is best to reap ; for then it will be plump-kernell'd, have a delicate bright brownish Colour, and furnish'd with a lively spirituous Flour, that will make an excellent Loaf of Bread, &c. To obtain these desired Ends, fine Weather at Harvest is a great Blessing indeed ; for then the Sun shines strong, scorches the Kernels in the Ear, and thus causes them to acquire the fine-coloured plump Body I have been writing of. By the Sight also, smutty and Pepper-wheat may be distinguished from that which is sound ; and by the same Sense may all Seeds of Weeds be discovered, as those of Melilot, Darnel, Burs, Cockle, Crow, Needles, &c. which in many Grounds grow up with the Wheat, and greatly infect and damage it ; for these, or any of these, do it little or more Harm, and lessen the Value of it either in Kernel or Flour : And for the better Discovery of such pernicious smutty Pepper-wheat, and Seeds of Weeds, a nice Buyer of Wheat will make his Inspection deeper into a Sack of it, than just to turn over a Handful or two of the top Part ; for as I sell all my Wheat at *Hemsted* Market, I have had an Opportunity to see more than one Trick play'd with Wheat to cheat a Buyer ; one of which fell to my Lot in the Year 1744. for, having then an Order to buy several Sorts of Seed-wheat to send to a Gentleman, my Sack-carrier inform'd me, that he saw a fine Sack of yellow Lammas-wheat to be sold ; a Wheat, that he was sure
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would please me. On this, I gave him Money, and trusted him to buy it for me, which he did; and indeed, it appeared at Top to be excellent Wheat-seed; but shooting it out of the Seller's into a Sack of my own, there was seen, in above half the Wheat, such a foul Mixture of Seeds of Weeds, that I was forced to grind it for my Family-use; and as the Owner of the Wheat sold it by another Hand, I could have no Recompence allowed me. It is for this Reason therefore, that a judicious Buyer runs his Hand pretty deep into a Sale-sack of Wheat, to search and see if the Wheat is as clean lower as it is at Top, to prevent this Fraud of making the Top-bushel more clean than the rest, on purpose to deceive the Eye of a Buyer; which leads me, in the second Place, to consider the Benefit of handling Wheat before it is bought. Now to the Sense of handling and feeling Sale-wheat, is very much owing the Knowledge of understanding its Value: This is so much relied on by the best Judges of Wheat, that they will buy none before they feel it; and on this Account it is, that as soon as our *Hemsted* Market-bell rings at Twelve o' Clock, for giving the Farmers Notice to begin to sell their Wheat, the Wheat-buyers directly run their Hands into the Five-bushel Sacks of this Grain; and if they feel it cold (as their usual Term is for Dampness), they generally directly leave that Sack for feeling into another Man's; and so proceed, till they feel that Wheat which best pleases them; and that is the Sort that feels truly dry, has a plump Body, and good Colour; and when they have met with such, the Question is ask'd, How much a Load the Farmer will sell it at (for you must know, at this *Hemsted* Market, we call a Five-bushel Sack of Wheat a Load, for being the largest usual Quantity that Sack-carriers or Corn-porters commonly carry on their Backs); and if the

Price is agreeable, they buy it; some for grinding directly, and others for laying it up in Store against a rising Market; for in this Town there has been sold upwards of ——— Sacks of Wheat on one Market-day; which gives Employment to a considerable Number of Persons to deal in this Grain, that we call Mealmen, because they furnish many of the *London* Bakers with great Quantities of fine Wheat-flour every Week throughout the Year, and thereby cause a brisk Trade to the several Millers about *Hemsted*; and on this Account it is, that there are more Water-mills erected on the *River Gade*, near this Market, than on any other in *England*, in the same Distance of Ground. Thirdly, The Goodness of Wheat may be also discovered by the Sense of Smelling: This may be justly term'd a necessary Branch of the Knowledge how to buy good Wheat fit for grinding, or to lay up for Store; for if a Sack of Wheat is bought without first smelling it, a Buyer is very liable to suffer by it; because such a Sack of Wheat may appear to the Eye with full plump-bodied Kernels, and have a fine Colour besides; yet unfit to be bought for either grinding, or laying up in Store: To which I add, that a Sack of Wheat may appear clear of the Soil of all Seed of Weeds, and yet be a damaged Sort. Now to make out these Particulars, I shall begin with taking of smutty Wheat. Smutty Wheat, or rather smutty Balls, that are found in Ears among many Crops of Wheat, yield a most offensive stinking unsufferable Smell, if rubbed, and put to the Nose; and as many whole Ears have nothing but Smut-balls in them, and others Part Smut-balls, and Part Pepper-wheat in them, these, by being bound up in the same Sheaves with sound Ears of Wheat, are generally threshed together, and thereby mix'd with the sound Wheat, so that there is no such

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Thing as parting one from the other after Threshing, but the smutty Balls and the Pepper-wheat must go together in the same Sack to Market; nor is there any Way to prevent such a Mixture, but by drawing out the smutty Ears from amongst the sound Ears before Threshing; and this is such a tedious chargeable Work, that few attempt it; if they do, the sound Wheat is apt to be tainted, and smell of it; and therefore by the Smell this is discovered; and when it is, the Mealmen generally refuse it, because it gives the Flour of the sound Wheat a noxious nasty Savour, and in course would be a Prejudice to the Baker, by making his Bread to smell of the same: Thus smutty Balls yield a hateful Scent in the Barn, in the Sack, in the Flour, and in the Bread. I heard a Tasker-servant say, That he could hardly bear to stay in the Barn while he was threshing smutty Wheat-ears among sound ones, because they made the Place stink to an horrid Degree. But this is not all that employs the Sense of Smelling in buying of Wheat: There are Melilot and Crow-garlick Weeds that grow up amongst Wheat in some Grounds; and as these are bound up with the Sheaves, and thresh'd out together, they give the Wheat a most disagreeable Smell; but I cannot say this Evil is very common amongst this Grain, because few Grounds are infected with them; and where they are, they grow mostly in Crops of *Lent* Grain. I have but one hurtful Wheat more to take notice of here, and that is the stinking *May* Weed; a Weed, that, I believe, infects and grows in all Sorts of Earth (except Sand); especially where Wheat, Barley, and Oats, have been sown in a coarse Tilth; for this Weed is the commonest Weed we have, and is in many Places so common, that in wet Summers most Reapers greatly suffer by it; for then it grows so rampant as to be almost as high as the

Wheat ; which gives it the more Power to damage Men, Wheat, and other Corn and Chaff. To Men it is so venomous, that it poisons their Legs thro' their Stockens, and their Hands where it can come at them, and there raises Blisters ; which to get present Ease of, they sometimes prick them for letting out the Water, and sometimes the Skin rubs off, and thence proceeds such Soreness, as hinders their Reaping till they get better. To Wheat, because when this Wheat grows thick among it, the Reapers cannot well help binding some of it up in the Sheaves ; and then the Tasker is obliged to thresh it with the Wheat, as the Pieces of Stalks and Seeds are mixed, and remain among it, till it is cleared of them by Threshing, Throwing, and Sifting ; and although the Wheat is by such Throwing and Sifting cleared of the *May Weed* Stalks and Seeds, yet it is often tainted with a stinking Smell of it, from lying so long with the Wheat in the Barn or Stack, and from being thresh'd with it. I heard that a Miller should say, the Wheat that he bought of a certain slovenly Farmer, was so infected with the Smell of this stinking *May Weed*, that it tainted the Flour of it to his Prejudice ; but that, when he bought it of the Farmer, he did not believe it would have had so bad an Effect. For my Part I do not wonder at it, because I have known a great deal of Mischief ensue from the Taint of this very nauseous Weed ; a Mischief that many Farmers are sensible of to their Cost, by its causing their Men to lie idle for a Cure ; for its damaging their Grain, spoiling their Chaff, and seeding their Ground to the Increase of its Weed. And on the Account of such its disagreeable Smell it is, that Horses refuse to eat the Chaff that is threshed from such tainted Wheat ; for if Chaff is but little infected by it, they will not eat it with a good Stomach. For these several Reasons, it is a common
Sight

Sight on a Market-day, to see Wheat-buyers put a Handful of the Wheat they are about to buy to their Nose, to try if they can discover any ill Scent among it; if they find any, they either refuse such Wheat, or buy it at a very low Price; and therefore no tainted Wheat ought to be bought to lay up for Store; no, not even if it has but a very little ill Scent belonging to it, lest it infects the rest, and hinders it a profitable Sale. Fourthly, Notwithstanding all I have hitherto written for arming a Buyer against laying out his Money on bad Wheat, and to buy that which will pay for being kept against a rising profitable Market, by first handling it, to prove whether it is dry enough for the Purpose, to see if there be any Soil among it, to smell if it be any way tainted; yet there remains another Thing to be done, before a Person ventures upon buying Wheat to lay up; and that is this; That all Wheat to be bought on this Account, should be first proved by biting a little of it, to know whether it be full dry enough to lie one, two, three, or more Years in a Granary, without taking any Hurt: If it is, then such Wheat will bite hard and short, as if it had been almost parch'd. When it is in this Condition, has a plump Body, and smells sweet, it may be bought for a complete-cured Wheat, that will keep sound Years together, free of the Breed of Weevils, and all other Damage; especially if such Store-wheat is made to pass thro' the tall Wire-screen once a Year, to take out and divest it of all Dust that may get among it by long keeping; and thus, such a well-cured Wheat has been kept good seven Years together, as I have heard it reported. To this Purpose observe also the following *Items*: First, Wheat, by feeling it only with the Hand, may deceive the Buyer as to its Dryness; but by biting it the Difference is

con-

confirm'd. Secondly, If Wheat is dry'd by the Fire in Sacks, it may be discovered by Bite and Smell ; for in this Case, it is apt to bite tough, and smell of the Fire. Thirdly, Wheat by long keeping in the common Way, and doing no more to it than laying it in a Granary, loseth its Strength and Spirit. Fourthly, Yellow pirky Wheat, if reckoned to have a thick Skin, is a tough Wheat, and not so good to lay up as the better finer brown pirky Wheat is. Fifthly, That, by the Nose, Wheat may be discovered, whether it is fresh or stale-threshed : If fresh, it will then smell very sweet ; for when just out of the Straw, it is in its sweetest Condition, and then fittest to be laid up for Store. Sixthly, That, by some, white Wheat is thought to be a more tender Sort than either a Brown, a Pirk, a Yellow, or a Red Lammas, and therefore the more unfit for long keeping. But what I have here written, may be only deemed a prelufory Discourse to what I have further to write on this Subject of preserving Wheat several Years in a Granary or Loft, and that in a sweet and sound Condition ; and therefore must refer my Readers to the Perusal of my Monthly Books for *August, September, October, or November* ; in one or more of which, I intend to publish not only one, but several new Ways, to preserve Wheat so effectually, that the same may be sold out again as good as it was bought in.

C H A P. XIII.

A Letter from an ingenious Gentleman, containing an Account of the several Uses that his new Engine may be put to, for the more easy and speedy cultivating of Lands.

S I R,

ACCORDING to my Promise, I here send you inclosed, some Account of the Uses of my new Machine, for the more speedy easy cultivating of Land ; which if (on your Perusal) you find not clearly and properly set forth according to my Intention (and what I said to you when I saw you), I beg you will make such Alterations at your Leisure, as you shall think most proper, in order that the same may be added to your Monthly Works, as soon as you have seen and approved of the Machine. I intended to have been down with you before now, in order that you might have seen one of the Machines in Practice ; but some Part of the Works happened to be imperfectly done, and am obliged to get it done over again, and which I expect will be finish'd very quickly ; and if there should be any thing therein defective, I hope (when you and I meet together, and put it in Practice) you will be able to repair and amend it, and likewise make some Improvements thereon. I find the Workmen that I employ on this Occasion are at a great Loss in making the Engine, on account of their not knowing what it is intended for ; which I do not think adviseable to let them know, till such time as I have the Attorney-General's Report, which I hope to have in my Favour in a few Days ; whereby the sole Property will then become absolutely

lutely vested in me, and my Assigns, &c. I shall then let my Workmen know the Uses of it. I have a great deal to say to you when I see you, in regard to two or three different Methods, whereby to introduce this new Invention to the Public, and at the same time, that I may make some reasonable Profit of it thereby. I shall be down with you as soon as possibly I can: Therefore, till we meet, I remain, with all Respect, Sir,

London, April 30. 1745. Your most humble Servant.

To this Monthly Work I should have added some new Account of Hops, of Bees, of Vipers, and several other curious and serviceable Matters, had I had Room enough for the Purpose.

F I N I S.



I N D E X

For the Month of *JULY*.

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F I N I S.



AGRICULTURE Improved.

For the Month of August.

CHAP. I.

Mr. WORLIDGE's Notes on Husbandry for the Month of August.

NOW bright *Phæbus*, after he hath warmed our Hemisphere, retires nimbly towards the Southern; and the fresh Gales of *Zephyrus* begin to refrigerate the scorching Sun-beams: The Earth now yields to the patient Husbandman the Fruits of his Labours. This Month returns the Countryman's Expences into his Coffers with Increase, and encourages him to another Year's Adventure. If this Month prove dry, warm, and free from high Winds, it rejoiceth the Countryman's Heart, increaseth his Gains, and abates great Part of his Disbursements.

You may yet thryfallow: And lay on your Compost or Soil, as well on your Barley-land as Wheat-land.

Carry Wood or other Fuel home before the Winter.

Provide good Seed, and well picked, against Seed-time.

Put your Ewes and Cows you like not, to fatting.

2 AGRICULTURE Improved.

This is the most principal Harvest-month for most Sorts of Grain; therefore make use of good Weather whilst you have it.

About the End of this Month you may mow your After-grass; and also Clover, St. Foin, and other *French* Hays or Grasses: Geld Lambs.

This is a very good Time for Inoculation in the former Part of this Month.

You may now make Cyder of Summer-fruits; prune away superfluous Branches from your Wall-fruit-trees, but leave not the Fruit bare, except the red Nectarine, which is much meliorated and beautified by lying open to the Sun.

Pull up Suckers from the Roots of Trees; unbind the Bud you inoculated a Month before, if taken.

Plant Saffron, set Slips of Gilliflower, sow Anise. Now is beginning a second Season for the increasing and transplanting most Flowers, and other Garden-plants, as Herbs, Strawberries, &c.

The Seeds of Flowers and Herbs are now to be gathered; also gather Onions, Garlick, &c.

Sow Cabbages, Cauliflowers, Turneps, and other Plants, Roots and Herbs for the Winter, and against the Spring.

Now sow Lark-heels, Cauditufts, Columbines, &c. and such Plants as will endure the Winter.

You may yet slip Gilliflowers, and transplant bulbous Roots about *Bartholomew-tide*; some esteem the only secure Season for removing your perennial or Winter-greens; as Phyllireas, Myrtles, &c. It is also the best Time to plant Strawberries, and it is not amiss to dress Rose-trees, and plant them about this Time.

Prop up those Poles the Wind blows down in the Hop-garden: Also near the End of the Month gather Hops.

Towards

Towards the End of this Month take Bees, unless the Goodness of the Weather provoke you to stay till the Middle of the next: Destroy Wasps, and other Insects; and streighten the Passages, to secure them from Robbers.

CHAP. II.

The great Importance that fair Weather is of to a Farmer in this Month.

AS this the most august Month in the Year for giving the Farmer an Opportunity to reap his Wheat, mow his Barley, Oats, Thetches, Beans, and hooking his Pease, &c. it highly concerns every Husbandman to take the best Advantage of fair Weather when it happens, according to the old Proverb, *Make Hay while the Sun shines*: Or, according to the rhyming Lines of old Tusser:

If Weather be fair, and tidy thy Grain,
Make speedily Carriage for fear of a Rain:
For Tempest and Showers deceiveth a many,
And lingering Lubbers lose many a Penny.
Be thankful to God for his Benefit sent,
And willing to save it, with earnest Intent.

To this Advice the best Farmers pay the greatest Regard, as well knowing that Seed-time and Harvest require their utmost Vigilance and Diligence. The first of which two Virtues must be necessarily employed to make Observations on the Season and Weather, and then to make the best Use of it: The Neglect of which, oftentimes, is the Cause of sowing Grain too soon or too late; and the same in reaping and mowing, and carting, or carrying it home. When therefore a Blessing of Time

and fair Weather is in our Favour, and we refuse accepting it, the Fault makes us become ungrateful Creatures, because we should watch as well as pray. It is true, that, at best, Farming-business is attended with much Uncertainty and Hazard; but then the least of those Misfortunes that happen by such Hazard fall to the Share of the Vigilant and Diligent. But to be more particular on this Account:

Sowing, Reaping, and Mowing, too soon or too late, are the two Extremes, that it highly concerns all Farmers to avoid as much as in them lies. In the Spring-season of 1744, those Farmers that sowed their Barley very forward suffered much by the Snows and Rains that then fell, and those that fell afterwards, which proved so disagreeable to almost all their Soils, that about half their Crops of Barley were lost by it; for the cold Weather that ensued, caused the Snows and Rains to chill the Seed, and bind the Surface to that Degree as prevented a plentiful Growth of this Grain: And sure I am, that had not the same Year been one of the most plentiful Years of Apples in the Memory of Man, Barley would have sold at an excessive Price. But this Misfortune did not affect those Farmers that sowed their Barley later and safer, I mean those that sowed their Seed in a medium Season, as they did who began sowing about the 12th or 15th Day of *March*, for some are so hasty to get this Sort of Seed into the Ground, that they begin the latter End of *February*, and sometimes have by this means the Sight of a reddish bladed young Crop instead of a green one, which then is a certain Indication of its never thriving afterwards, so as to make the Owner a plentiful Return at Harvest. Again, it was the Case of many Farmers to be so behind in mowing and getting in their Crops of Barley in the Harvest of

1744,

1744, that it occasioned many thousand Quarters of it to be almost spoiled by long and great Rains; for, notwithstanding all the Care that could be made use of, after mowing it, and by its lying in the Field till near *Michaelmas*, such Barley was not fit to be made Malt of; because it acquired a blackish Colour, and most of its Kernels a sprouting out. That is to say, it began growing and jetting out Spires while it lay abroad. And indeed to this great Loss all Barley-crops are very much exposed, that grow from the Seed of any Sort of Barley that is not of the rathripe Sort; and from whence I am led to observe, as in my next Chapter.

C H A P. III.

The good Conduct of those who sow'd rathripe Barley in the Spring-season of 1744.

OF all white Grain rathripe Barley is the first that is fit to cut; and what I call rathripe Barley, is *Fulham* Barley; or *Putney* Barley. This is the Sort of Barley that is first ripe, and fit for mowing; and therefore necessarily comes under my Observation in this Place, for giving those Persons their just Praise, who were so wise as to sow this rathripe or forward growing Seed; for by sowing this a little later than the common Barley is usually sown (which it will admit of beyond all other Barley-feed), the Farmer avoided falling this Year into two great Misfortunes, that attended all or most of those, who sowed their common Barley-feed the latter End of *February*, or Beginning of *March*; which occasioned the Loss of many Crops of this Grain, as I have before remark'd. Then those Farmers that sowed this
rathripe

rathripe Barley after them, had the Pleasure to see their Crops grow to their great Profit: For so it happened, that some had this Sort of Barley ripe sooner than their Wheat, and got into their Barns in the greatest Perfection, before they innd a Sheaf of Wheat, and before Thousands of Farmers got their common Barley-crops mowed; which, as I said, occasioned the spoiling of vast Quantities of this necessary Grain; and that which was saved tolerably well, made but a bad Malt; so that there was little good Malt made this Year; which proved a great Loss to the Farmer, to the Maltster, to the Brewer, to the Victualler, and to the Drinker, and indeed somewhat to the Revenue of Excise: For it is certain, that without good Barley it is impossible to make good Malt, and without good Malt it is as impossible to make good Drink. Consequently there was the less Consumption made of Malt Liquors; for as Beers and Ales are good and bad, so there are more or less Quantities drank of them. In this Case the Farmer is the prime Sufferer, and is the less able to pay his Rent, and maintain his Family, when his Crops of Barley are got into his Barns in a damag'd Condition: And indeed this was the very Case of many Farmers in 1744. I know several within a few Miles Distance of *Gaddeſden*, that were seized on, in *April*, *May*, and *June*, 1745, for Non-payment of their Rent. A Misfortune partly owing to the Loss they sustained by getting in their Barley-crops so wet and bad, that they could not sell it for more than ten, eleven, or twelve Shillings per Quarter: And a great deal was so bad, that they could not sell it at all. In short, this Loss affected many Farmers, even in the South-west and East Parts of *England*, but, most of all, those in the North, where was little, very little of their Barley got into their Barns in good Order, and a great deal intirely spoiled,

spoiled, as being only fit to make Dung of; while those Farmers, who sowed *Fulham* Barley, got theirs into the Barn in fine, bright, dry Order, without any Rain on it: And they had good Reason to hope for such Success, because by their sowing this excellent forward Barley-seed, it grew much faster than any other Barley-seed whatsoever; for it got into a full Ripeness of Ear in warm dry Soils in nine or ten Weeks time, so that it became fit to mow while the Days were long, and the Nights short; in *July*, or the Beginning of *August* at farthest. But though I mention warm dry Soils, yet I have known this rathripe Barley in our stiff, moist, flat, loamy, inclosed Fields, lying in a very high Situation about *Gaddefden*, so early ripe, as to be got into the Barn before our Wheat; and then it is that such Barley will begin, and go through a regular and due Fermentation or Curing in the Mow, before the common Sort of Barley that was got in later; by which means the rathripe Barley may be brought to a much earlier Market than the common Sort, and be ready for Maltsters to begin making their first Malt by *Michaelmas*, or sooner: And for these Reasons it is that those Farmers, who can bring their rathripe Barley to Market, generally meet with the best Prices for it. It was also upon account of these Benefits that I paid twenty Shillings per Quarter for the Seed of the right genuine Sort of rathripe Barley at a particular Farmer or Seedman's House (that I constantly deal with) in *February* 1744, when the best common Sort of Barley-Seed was sold at *Hemsted* Market for fifteen Shillings per Quarter, at the very same time. But then there is this Difference between the Measure of the one and the other: The rathripe Barley is always sold by the largest Bushel in *England*; that is to say, one that contains nine Gallons, when the *Hemsted* Bushel

contains eight Gallons. This Affair I am the more particular in explaining, because I executed several Commissions I received from different Gentlemen, who wrote to me for sending them Parcels of this profitable rathripe Barley-feed both by Sea and Land in the Spring-season of 1744·5; which I am sure was so good a Sort, that I am under no Apprehension of its not answering the Ends for which I proposed it to them: And they are, first, That this rathripe Barley-feed may be sown somewhat later than the common Sort of Barley. Secondly, That it will acquire, in a stiffer Soil than where it came from, a larger Body than the Seed had. Thirdly, That this rathripe Barley will even in such a stiff Soil carry a thinner Skin than common Barley will. Fourthly, That the rathripe Barley will be ripe sooner than any other Barley whatsoever; and therefore has a much better Chance to be got into the Barn in a drier and finer Condition than any other Sort of Barley. Fifthly, That it will sell for more at Market than any other. And lastly, That it will make better Malt than any other Sort; provided it be only of one Year's Growth in such stiff Soil, from the Time of sowing the true rathripe Barley-feed: Not but that the Virtue of this rathripe Barley will remain two Years, or more; but then the second Sowing of it will not produce such good Effects as the first. And it is for the sake of these great Benefits that several of our Farmers, who carry up to *London* Flour, Peas, Thetches, Chaff, or Wood, &c. bring back *Fulham* or rathripe Barley-feed to *Gaddeſden*, and other Parts of the Country, not only for their own Use, but also for selling Parcels of it out to smaller Farmers, who have not Teams capable of drawing such Carriage above thirty Miles in one Day that a strong Team of Horses can; and by which such
a great

a great Farmer sells this forward growing Barley-feed to a considerable Advantage.

How a Farmer got two Crops of rathripe Barley into his Barn in one Summer, from off one and the same Piece of Ground.——— A certain Farmer said he got two Crops of rathripe Barley into his Barn in three Months time, thus: Having an inclosed Field in the *Chilturne* Country consisting of a dry loamy Soil that he had exceedingly well dressed with short rotten Dung, and by several Plowings brought it into a very fine Tilth, he sowed the same about the Beginning of *March* with rathripe Barley-feed, which, by the warm showery Weather that succeeded, grew so fast, that by the first Day of *June* it was fit to mow, and he got it into his Barn in good Order. This forward first Crop being housed so soon, encouraged the Farmer to attempt getting a second, from sowing the same Sort of Seed; and accordingly he immediately gave the same Ground only one Plowing, and harrowed into it more rathripe Barley-feed; which, being attended with warm Showers, became fit to mow in nine Weeks time. And thus he got two Crops of the best of Barley into his Barn in less than three Months time. Since then there are these great Advantages attending the Sowing of rathripe Barley-feed, it is certainly the Interest of many Gentlemen and Farmers, who occupy Land that lies not too wet, and is not too stiff for this Purpose, to fetch, or buy it ready fetch'd, this excellent rathripe Barley-feed from thirty or forty Miles Distance, though it be by Land-carriage, as is done by some *Hertfordshire* Farmers in particular, who I believe, I may say, hardly ever sowed this delicate Seed, but they found their Account in it; as I don't question but that those Gentlemen have done, to whom I sent Quantities of it in 1744-5, by Sea, and Land, to great Distances.

The best Method now in Use to cure and inn Crops of rathripe Barley — This Sort of rathripe Barley, as it grows in a rich sandy black Loam, called by its Owners Livery-earth, commonly yields very great Crops; and, as it generally grows very close and bulky, its Kernels are always thin-bodied; and the rather, because they always sow four Bushels of their large Measure on each Acre; which in course sows their Ground prodigious thick, and which being a loose dry fine Earth, few or no sound Kernels miss growing. Now, the thicker Barley grows, and the bulkier the Crop is, the greater Care is required to get it dry as soon as possible; for, if such a thick Crop should be much wetted, it will be very difficult to get it in good Order for Housing: But this Danger is certainly much lessened by the forward ripening of this rathripe Barley while the Weather is generally hot, and the Days long, which, as I said, often delivers the Owners of such Crops from the Damage of Rains, that later-growing Barley-crops suffer by. And, for the better Assurance of such Deliverance, if the Weather promise fair, they let it lie in Swarths as it was mowed, four, five, or six Days, without binding it up; but if it is otherwise, they bind their Barley sooner, and, in order to such Binding, they make use of a dewy Morning to twist and make their Bands, to prevent the breaking of their Straw, which they would be very apt to do, if they did this Work in the dry hot time of the Day: And, when they have got their Bands ready, they bind all their Barley the same or another Day in Bundles or Sheaves, and set them up one opposite to another, so that they stand as hollow as can be set, in the same manner Wheat-sheaves are set up in Shocks. Now this is a quite different Way to what is practised in *Hertfordshire,*
Buck.

Buckinghamshire, Bedfordshire, and most other Counties in England, as I shall shew.

The Hertfordshire, Buckinghamshire, Bedfordshire, and most other Counties Ways of cutting, curing, and inning their Barley-crops — It is the common Practice of *Hertfordshire, Bedfordshire, and Buckinghamshire*, as well as of most other Counties in *England*, to mow all their Barley, and then let it lie in the Swarths it was mowed in, till they think it is dry enough to be put into large Cocks with common two-tyne Forks, where, after it has lain a Night and a Day, or longer, it is loaded in Carts or Waggons, in a loose confused Order, and carried home as Hay is, to lie in Stacks or Cocks, abroad, or in the Mows of Barns. But if it chance to rain, and wet the Swarths of Barley much, they generally with Forks turn them Bottom upwards, to prevent the Corn's growing or sprouting; and, if one Turning does not answer, we turn it again, but with much Reluctancy; for this is the last Shift of saving Barley from spoiling in the Field; nor do we ever do it, unless a great Necessity requires it; for whenever this is done, it is to keep it from getting a yellow or black Colour, and from rotting while in the Field, as much as possibly we can. And when I have said all I can in behalf of our *Hertfordshire* Way of curing Barley in the Field, and carrying it home, I must frankly and ingenuously own our Way is absolutely wrong, and not so good as that practised in *Cheshire, Lancashire, Kent*, and in some Parts of *Norfolk*, and about *Fulham*.

The Cheshire and Lancashire Ways of Cutting, Curing, and Inning of Barley-crops. — The Way that Gentlemen and Farmers in these Counties commonly take to manage their Barley-crops in the Field, is different from what is practised in *Hertfordshire, Buckinghamshire, Bedfordshire*, and even at *Fulham*, and in *Kent*; for here they generally reap all their

Barley, and, when they have reaped it, bind it up in Bands made of the reaped Barley. As soon as this is done, they set up their Barley-sheaves in Shocks, as they do their Wheat, and set up five Sheaves of a Side, one Sheaf opposite to the other, ten in all to each Shock; and when the Shocks have stood a Day, two, or more, in the Field, they carry them home to be mowed in Stacks, abroad or in Barns. But, in case wet Weather should happen while the Sheaves of Barley stand thus in Shocks, they are not much concern'd about it, as knowing that a little Rain will not hurt them; for as they stand hollow in little Shocks, the Winds presently dry them again: But when they are apprehensive of long and great Rains, they take their Precautions, and manage their Shocks of Barley, I shall shew how, when I write presently on Wheat. In the mean time I shall answer a few Objections, that some ignorant and prejudiced Persons make against this Method of binding up Barley in Sheaves as they do Wheat.

Objections against binding up Barley in Sheaves answered — First, say they, It is a tedious Way. Secondly, That it is a troublesome Way. Thirdly, That it is a wasteful Way. And, fourthly, That it is a chargeable Way. To which I answer, first, That Reaping is indeed a more tedious Way than Mowing; but as Workmen are much cheaper in *Cheshire* and *Lancashire* than in the more Southern Parts of *England*, they easily dispense with that for the sake of the Benefits that attend Reaping more than Mowing; which are, That by Reaping, the Stalks and Ears of the Barley are laid in Swarths more even and regular, than the Sithe can possibly do it. Again, by Reaping of Barley, the Reapers can gather it up cleaner, and prevent Waste better, than any Sithemen can. But I cannot say, that these are all the Reasons why they reap

reap and not mow their Barley in *Lancashire* and *Cheeshire*: Perhaps the Use of the Sithe and Cradle is not known in these Parts; for, even in the Southern Parts of *England*, he is deemed a good Workman that can use it dextrously. Secondly, and because (especially if it is a thin Crop) reaping and binding is more troublesome than mowing Barley, and carrying it home in the promiscuous loose confused Way, which the *Hertfordshire* and other Country-men prefer before all others, and scorn to be put out of their old *Dobyn's* Path, as believing no Way so good as their own, to save Labour, Time, and Expence. But altho' I am an *Hertfordshire* Farmer, I must give this Point against my Fellows, because I am convinc'd, that Mowing of a Barley-crop with Sithe and Cradle, and afterwards binding such Barley in Sheaves, and setting them up in Shocks, to the Number of ten Sheaves to the Shock, is by far the better Way. For, notwithstanding the Objection, that it is a wasteful Way, on account of binding the Sheaves with the same Barley, which may occasion some Kernels to drop out of their Ears; and that it is a more chargeable Way, than to carry the Barley into the Barn loose, as Hay is carried; this indeed is confessed to be true in some Degree, even by those that practise it. But then, say they, the Benefits that arise from such Cradle-mowing, and binding Barley in Sheaves, more than compensates all the Labour, Time, and Charge that is employed about it; for, by mowing Barley with the Sithe and Cradle, there is more Work done in a Day, than can be done with a Sithe and Bale, or with a bare Sithe; and not only more Work, but also much more clean and profitable, notwithstanding the two latter Instruments are mostly in Use throughout *England*, because of the few Workmen, as I said, that understand its Management: Not but that it must be allowed,

allowed, that where a Crop of Barley lies in a straggling Condition, or is great, and blown down by the Winds, or beat down by Hail, or Storms of heavy Rains, then indeed the Sithe and Cradle must give way to the Use of the Sithe and Bale, or bare Sithe, as being the most proper Tool for mowing such a confused Crop, that in this Case can't be bound up in Sheaves. And indeed it somewhat surprises me, that the *Cheshire* and *Lancashire* Farmers are so accustomed to reap their Barley, and not got into the Way of mowing it with Sithe and Cradle, which, I think, may be conveniently done with them, as well as with us, to their great Interest; for, I am sure, it is more troublesome and chargeable, even in a cheap Country, to reap their Barley, than to mow it with Sithe and Cradle, which does not hinder their binding it up in Sheaves; on the contrary, it is what is practised in several Parts of *England* at this Day, as the quickest, cheapest, the surest and cleanest Way of all others, thus to mow it, and then to bind it up in Sheaves; for in this Posture the Barley is sooner got dry, sooner loaded in the Waggon or Cart, sooner emptied, and much sooner and easier threshed out. These four great Conveniencies no Farmer can deny to be true: And to them, I think, I may add two more; and they are, that such Sheaves of Barley will lie sweeter in the Mow, than that which is confusedly laid in, and much securer from the Damage of Rats and Mice, because the Back-parts of the Sheaves being placed outwards on all Sides of the Mow, Vermin will find it much more difficult to make an Entrance here than among that Barley that is promiscuously mowed in. And although the general Part of the Nation refuses to bind up their Barley in Sheaves at this Time, yet it is an old Practice, as appears by the following Lines of *Thomas Tusser*, Esq; who is said to write these,

these, and many more, the latter End of Queen Elizabeth's Reign.

The Mowing of Barley, if Barley do stand,
Is cheapest and best for to rid out of Hand:
Some mow it, and rake it, and set it on Cocks;
Some mow it, and bind it, and set it on Shocks.
Of Barley the longest and greenest ye find
Leave standing by Dallops, till time ye do bind:
Then early in Morning (while Dew is thereon)
To making of Bands, till the Dew be all gone.
One spreadeth those Bands, in order to lie,
As Barley (in Swatches) may fill it thereby:
Which gathered up, with the Rake and the Hand,
The Follower after them bindeth in Hand.
Where Barley is raked (if Dealing be true),
The Tenth of such Raking to Parson is due.
Where Scatt'ring of Barley is seen to be much,
There Custom nor Conscience Tything should
grutch.

Corn being had down (any way ye allow),
Should wither as needeth, for burning in Mow.
Such Skill appertaineth to Harveftman's Art,
And, taken in time, is a Husbandly Part,

In short, as Barley has generally a shorter Straw than either Wheat or Oats, there is no Occasion to reap it; but to mow it with Sithe and Cradle (where its Growth and standing will admit of it) and bind it in Sheaves, is perfectly necessary in all Land whatsoever, more especially in spongy and wet Ground: For by quickly binding and setting it up in Sheaves here, the Barley is very much secured from the Damage of Damps and Wets, which are the greatest Enemies to this Grain after it is cut; witness the Thousands of Quarters that were spoiled last Year, partly for want of thus binding it

it up in time; for when Barley stands up in Sheaves, and eight Sheaves are covered on their Tops by two, the Rains have but little Power to hurt them; and if they do wet the whole Number, in the Position they stand in, while in Stocks, the Sheaves will soon get dry again: And this is what may be done, if the Barley-crop stand upright, whether it be a thick or a thin Crop; but if it is a heavy Crop, and fallen down, and laid or scrawl'd about, then indeed it is not fit to be mowed with a Sithe and Cradle. The bare Sithe, or a Sithe with a Bale fixed to it, must be made use of to mow such Barley, as I said before; and the Whole to be carried confusedly loose into the Barn. Thus of rathripe and other Barley, I have thought it requisite to be the more particular in writing, in this Month; because no Author before me has published several of these Points of Knowledge, although they are absolutely necessary to be understood by most Farmers in the Nation. But I can't finish this Subject before I observe the way the *Kentish* Farmers take to manage their Barley-crops, who mow all the Barley they can with the Sithe and Cradle, even if it lies down; for it must be a very flat big Crop indeed, if they don't cradle it; because such cradling it lays the Barley in even Rows, fitter for binding into Sheaves, than when it is mowed with a bare Sithe in the confused loose way. Then when the Barley is dry enough, in a dewy Morning they make their Bands for binding up their Barley in Sheaves; and when they are so done, one Man tucks so many Bands into his Girdle as he thinks fit; and then follows another Man, who goes before the Binder with a five-toothed wooden Rake, that has two Teeth long and three short, with which he rakes the Barley, as it lies on each Side of him, into an Heap, to the Quantity of as much as will make a Sheaf of Barley;

ley; and when this is done, he goes on in the same Row doing the like, and the Binder follows him with his Bands, and lays each Heap of Barley into one of them, and binds it up as he goes. Thus both Raker and Binder proceed, till the whole Field is done; and when it is all finished, they hyle it, as they call it; that is, they lay four Sheaves on the Ground two against two, the Ears of one Sheaf by the Side of the Ears of the opposite one; and so make three Tiers with their Back-parts outward, and on all of them three Sheaves placed by way of Cover to make one intire Shock of fifteen Sheaves; and allege, that tho' it costs some extraordinary Time and Labour to bind up Barley, Oats, Peas, and Beans, in Sheaves or Bundles, yet in the main there is so much Time got in loading and unloading and threshing, as makes it more profitable to get Corn in this way, than in the common and loose way. They also tell you again, that by this way of laying Sheaves of Barley, Oats, Peas, and Beans, in Barns with their Back-parts outward, Rats and Mice are much better kept from coming at the Grain; because the Cats have by this means free Room to walk their Rounds to catch them; and those that escape the Cats will meet with so much Difficulty to enter between the Sheaves, and there make a Lodgment, that the Grain will be vastly preserved against their Rapine.

C H A P. IV.

OF W H E A T.

A Farmer, like a Taylor, never is Master of his Business. Shewn by —

THE Case of an old Farmer, who, by wrong plowing one of his large Fields, lost great Part
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of his *Wheat crop*. ——— It happened that the Spring Season, 1744, continued so long wet and cold, that it stinted the Growth of Wheat in many Places, and at the same time gave the Weeds an Opportunity to grow and get a-head of it; for though the Weather kept back the Growth of the Wheat, it did not that of hardy Weeds, as the Thistle, the red Poppy, the stinking Mayweed, the wild Parsnep, the yellow Horsegold, the Carlock, the Crow-needle, and others. But the main Cause of this Misfortune was owing to the Plowing of Ground too much the last fallow Season, I mean in the *Chillurne* inclos'd Country of *Hertfordshire*, and some other Parts: Yet what was a Fault this Year by plowing Ground too much, would be so far from being a Fault perhaps in another Year, that it would be perfectly necessary so to do. Now this seeming Paradox of plowing Ground too much for a Wheat-crop, I can easily reconcile, thus: You must know, that our *Hertfordshire* Farmers in general are justly accounted the best of Plowmen, as is evident from their usual Process of Plowing, to prepare their Land for a Wheat-crop; which the best of them commonly do in the following manner: Whether their Land be an intire Loam, a gravelly Loam, a clayey Loam, or a chalky Loam (which are the chief Sorts of Soils our Parish abounds with), they generally give it five Plowings in all for a Crop of Wheat; a Fallow, three Stirrees; and at Sowing-time, after they have fallowed in broad Lands, they bout, and next-time bout of the last Bouts; then bout down, and plow when they sow their Wheat; which several Operations of the Plough seldom fail of reducing their Ground, and bringing it into a very fine pulverized Tilth. And it was into this Condition that the old Farmer, I here write of, brought his inclosed deep loamy Field, when he sowed it with Wheat, in 1743, to

his great Loss: For so it was, That that Land which had the fewest Plowings this Year for Wheat, fared best. The Reason was, that ever since the great Frost of 1739-40, the Ground has plowed easy, hollow, and light; which should have proved an Indication to the Farmer to have forbore giving it the usual Number of Plowings, lest a cold Spring should follow, and the Frost be freely admitted to the Wheat root, which consequently would check its Growth, and give the Seed of Weeds room to revive and outgrow the Wheat. And indeed this happened to be the old Farmer's very Case; for, as I said, the Wheat in the Spring-time was so crippled by the Frost, that Weeds came up in Abundance in a deep, loamy inclosed ten-acres Field of this Man's, called, *Couch-Croft*; and then it was that he saw his Error too late, and caused him to say, *This Weather will spoil my Wheat in Couch-Croft*. And after it so happened, he declared, that in above fifty Years time that he lived in the Farm of one Hundred a Year Rent, he then was in, he never knew this Field miss of a full Crop of Wheat before; but this time the red Poppy-weed and May-weed in particular grew so rampant thick, that it was thought they spoiled half the Crop of Wheat; whereas, as he told me, had he not given this deep loamy gravelly Earth so many Plowings as he did, he should have had a much better Crop of Wheat. This Case plainly shews, that a Farmer, like a Taylor, never is Master of his Trade; and likewise the great Value of a judicious Plowman, who cannot be rightly called such an one, if he has not Judgment enough to manage his Plowing according to the Nature of the Ground, and the Season of the Year. This is an Article of most deserved Notice; for, if this Case is well studied, it may be a Means to prevent many and great

Losses to Farmers and the Nation in general; because the right Plowing of various Soils at different Seasons of the Year, although it has been the least written of by all Authors whatsoever (except Mr. *Tull*), yet I am sure it is a Matter of greater Importance than any thing else in the whole Science of Agriculture.

C H A P. V.

The Copy of a curious Letter from a learned and experienced Gentleman to the Author, who made several great Improvements in his own Estate, by planting of Trees, procuring the newest and best Instruments of Husbandry, &c.

Mr. *Ellis*,

THE Cherry-trees you sent me last Year all arrived safe, and were indeed as fine Plants as ever I saw, and consequently take very well, notwithstanding the last intolerable dry Summer. I don't question but they are of the right Sort; but the Gardeners hereabout, two of which came out of *Hertsfordshire*, will have it, that there is no such Fruit as black Kerroon Cherry, and that all of that Name are red. I told them they were certainly mistaken; for that, when I was last at *Richmond*, I bought a great many of them, which were cried about the Streets, by the Name of black Kerroons; but I could not convince them but that it was an Imposition. If so, you are impos'd upon as well as myself: Therefore I leave it to you to vindicate us both.

But the chief Reason of this Letter is, to consult you about the Management of an Estate I am going to take into my Hands; which that you may be

be the better able to understand, I shall be as particular as is necessary in the Qualities and Condition of it. The first and best Thing I can say of it is, that it is intirely my own: Therefore we have full Scope to exert all our Abilities, and to display the utmost of our Geniuses in the Management of it. The Estate is situated in a large Valley, and the rest upon the Woulds, which rise to the South of the Town. Woulds or Downs are synonymous Terms. All the South-side of the Town has been kept in constant Tillage, after the common Method. From the Town to the Top of the Woulds is about half a Mile; consisting of various Soils, I may say all Sorts, except Clays: As for Instance, for about a hundred and fifty Yards from the Town 'tis a very deep Sand, not intirely barren; for in a moist Summer it brings pretty good Rye, Barley, and the best boiling Peas in the Country; but last Year they were all burnt up. At the End of these one hundred and fifty Yards, the Sand begins to change gradually into a more earthy and better Soil; which, as you go on, continues meliorating, till you come to a very good Loam. This Loam holds out to the Top of the Hill, and some Way farther; only, as you mount, it turns out more and more small chalky Lime-stones, till it terminates in a gravelly Loam: Now we are upon the Woulds, where my Territories reach about a Mile and a half farther; here are kept a good Number of Sheep, and Room enough for abundance more; but the greedy Tenants have always kept plowing up some Part or other, which put them to a great Expence, and never answer'd; for they spoiled the Sheep-walk, and got very little Corn: 'Tis but here-and-there in the Valleys, what by the Benefit of the Fold, and the washing down the Soil from the Sides of the Hills, they have got good Crops; but, generally speaking, considering
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the Expence and Labour, and then lessening their Number of Sheep, it did them more Harm than Good; and you will think so, when I tell you, that 'tis one of the most healthy and sound Pastures for Sheep in the Kingdom, there never having been known a Rot among them in the Memory of Man.

Now it is time to let you into my intended Scheme: All the Would-land I would lay down for a Sheep-pasture; and as it is a Soil that soon put up a short Sort of Grass, it would maintain me in three or four Years eighteen hundred or two thousand Sheep. The other Part from the Top of the Hill down to the Town, being the best Corn-soil, I would keep constantly under Tillage, and divide it into two equal Parts; always one half sown with Wheat, Rye, and Barley, and the other with Beans and Peas, in Drills at twenty Inches or two Foot Distance. These Intervals I can hoe with great Ease and Expedition, with an Instrument I have by me; with which Hoeings, and the Fold, as soon as ever the Peas and Beans are off the Ground, I don't doubt but the Land would be in good Order to sow Wheat or Rye after one Plowing; and, if the Weather continue favourable, one might enrich it with another Folding after the Corn is sown; and what Part we design for Barley, might have as many Plowings and Foldings, as you please; for I reckon such a Number of Sheep would be capable of double or sometimes treble dressing this Quantity of Land, which contains, I think, about two hundred Acres. When I talk of Beans, I don't mean Horse-beans, for I doubt my Soil is not stiff enough for them; for there is a larger Sort which takes very well in these Grounds, which are too light for the others. I saw a very fine drill'd Crop of them at the Earl of *Halifax's* Farm at *Abbi-court*; but I can't for my Life remember what they call

call them : If you have, pray tell me ; for I believe I shall employ you to send me some next Year. I find in one of your Books, where you are describing the different Methods of sowing Beans in Rows, you mention, as the best, a Hopper or Bin fix'd to the Foot-plough, which delivers the Seed very regularly : If it really does so, I desire you will send me one ; but it must be made for those large Beans I mentioned above ; though I never yet saw any of those Contrivances that did their Duty exactly ; for they generally either crush'd the Seed, or here-and-there miss'd, and left pretty long Voids in the Rows. You give so great a Character of the new-invented Double-plough, especially for such a Soil as mine, that you must also send me one of them ; but 'tis necessary to inform you, that our Plowmen here never saw a Plough with Wheels in their Lives, so that perhaps they won't know well how to use it, and always plow with two Horses a-breast. Could not therefore this Plough be contrived to do its Work well without Wheels ? If it can, let it be made so ; but not, if it will take away from any of its good Qualities : However, it must be drawn by two Horses abreast.

Now let us take a View of my Scheme : One of the chief Benefits I propose to myself, by laying my Tillage constantly under the Fold, besides that of getting more Corn upon the Ground, is this ; That thereby I shall be enabled to save all my Dung that is made in my Yard, to lay upon my Meadows ; and never be put to the Expence of buying Soot, Ashes, Lime, or other Hand-dressings. This is an Advantage that few Farmers can enjoy ; and indeed is so great a one, that the Thoughts of it did not a little please me ; till the other Day, running over your *Chilturne* and *Vale* Farming explain'd, I met with a Caution you give us, in the Chapter of Manures, Page 373. which put me in
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the same Condition of the Man with his Glasses in the *Persian Tales*; for you there, with one Kick, quite demolish my chimerical Fortune : What you say there is to this Purpose, That the Earth is like our Stomachs, which are best pleas'd with Variety of Nourishment, and are apt to loath a constant Repetition of the same Sorts of Meat. And in the last Leaf, where you enlarge upon it, you say, That if we do not change our Dressings, it may be depended on, that the Earth will be saturated and tired with that Sameness of Food, which is the Cause of thin Crops; and that many of late have approved of this profitable Notion, &c. This is attacking my very Foundations, and, if infallible, will inevitably overthrow the whole Superstructure. But tell me, my good Friend ! Do you really insist upon this as orthodox, or only patronize it as being something new, and what is not vulgarly known ? If the first, give me Leave to examine it a little. The small Experience I have had in such Affairs, convinces me, that the more Manure you can lay upon the Land, I mean, in an Husband-like Manner, the better Crops you will obtain, unless the Seasons are very contrary. This is a Maxim so generally establish'd amongst our Farmers, that the ablest of them think they can never lay out their Money to more Advantage than in purchasing Manure, which is always Cart-dung. I speak of those who have not the Conveniency of a Fold : If with that, and good Plowing, they ever fail in their Crops, which they seldom do, they always impute it to the Unkindness of the Season ; but none of them ever took it into their Heads to lay the Blame upon the Dressing, because it was the same Sort that was used three Years before. I know you are apt to have but a mean Opinion of the Management of our Northern Farmers : I must own, that those of them who occupy inclosed Farms, don't make the

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Advantage of them they might ; for they are not yet entred into the late Improvements of the Southern Counties, by sowing Turneps, Artificial Grass, and Corn, alternately ; but those, whose Lands lie in open and common Fields, I really think, don't deserve this Censure ; for I generally see as fine Crops of Corn in ——— *shire*, as I ever saw in the South ; and they don't reckon they have a good Crop, unless they have three Quarters of Wheat, or four Quarters of Barley, upon an Acre. I myself had this last Year, upon six Acres of common Field-land, at ———, upwards of four Quarters *per* Acre of Wheat. This Land was manured very thick with Cart-dung, which for a Trial I laid on over three of the six Acres in *May* ; and the other three were manured about *Michaelmas*, just before I sowed my Wheat. The last proved something stronger, but not much. This may convince you, that our Crops are not despicable, which we thus obtain, when we can lay on Dung enough ; for with that, and good Plowing, and a kind Season to get our Seed into the Ground, we never doubt of a plentiful Resurrection ; and why I can't do the same with the Fold, I can't apprehend.

As to your Comparison : Most Men, 'tis true, of any Figure in Life, are too prone to Inconstancy and Change in all their Actions, as well as Appetites ; and must have the whole Globe of Earth and Sea ranfack'd to gratify their inordinate Desires : But this luxurious Disposition is not, I hope, so much implanted in our Natures, as 'tis owing to our indulging ourselves too much to Ease and Idleness : For set a good Joint of Meat before my Plowmen, or Labourers, every Day the same, give them but enough, and, I will answer for them, they will behave themselves very well in their several Attacks, and be lusty and healthy at the Year's

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End ; though perhaps their lazy Master's Stomach would have risen against the third Meal. Nor did I ever find, that my working Horses, or Oxen, refused the same Hay and Corn the Year round, but eat clean up as much as was given them, while those that were pamper'd and fed, and kept sleek and fine for the Market, were as whimsical and squeamish as the nicest Beaux. This must be attributed to the Want of due Labour and Exercise. 'Tis just the same with the Earth ; for take a small Piece, and manure it very well for some Years, without either plowing or mowing, or feeding on it ; for there are Exercises of the Earth ; and it will denote a Foulness of Stomach, by putting forth nothing but rank Weeds ; but after you have given it sufficiently of these Exercises, you need not fear clogging its Stomach with too much and too constant Food, if it be a proper Sort ; for it will always manifest a good Digestion, by the grateful Returns it will make you. These are my Thoughts, which I wish may square with yours ; for I shou'd be glad to have the Approbation of a Man of so much Judgment and Experience in Agriculture, as a Sanction to my future Undertakings. I am

Your humble Servant.

P. S.

You may charge this Letter with the Plough, which may be sent down by Sea, directed to me at—. Send me also what Monthly Books you have publish'd since last *April* ; in some of which, I hope, you have described the best Method, and the best Sort of Ploughs, for plowing up old Grass-grounds, and laying them down again for Grass, after three or four Crops of Corn.

The Author's Answer to the learned Gentleman's curious Letter, relating to the Improvement of his Estate : Containing, first,

A Dissertation on the Cherry-tree.— In Answer to your curious Letter, I have Reason, in the first Place, to apologize for my Incapacity, that disables me to return one adequate to your delicate Style of writing; but, as your superior Learning is as obvious as my illiterate Parts, my Deficiency on this Account, I hope, will be candidly excused: And, what I want in this, I will endeavour to make up in writing on genuine, experimental, and practical Husbandry; and, therefore, shall begin with expressing my Satisfaction in hearing, that the considerable Numbers of Kerroon Cherry-trees, that I sent you by Sea, safely arrived, and answer your Expectation; which I was not in much Doubt of, because they were, in every respect, as complete a Set of young Trees, I believe, as ever was sent to any Gentleman; and were as well pack'd up for a longer Voyage, than to your Part of *England*; so that I hope, by your supervising their good Management, they will become large Trees in a very few Years: For it is my Opinion, and what, indeed, I have often experienced, that if a Fruit-tree is at first rightly transplanted, at an Age not too old, nor too young, in a Virgin Earth, and has afterwards a due Application of good Husbandry bestowed on it; such a Tree will grow as fast again, as one planted wrong at first, and afterwards neglected, so as to grow in the wild manner of spontaneous Trees; which leads me also to observe, that, to further and expedite the Growth of such Cherry-trees, they should every Year, or every other Year, have a shallow Slit made long-wise on their outward Bark, with a sharp-pointed Knife, no deeper than the first Bark or Rind, lest a deeper Incision cause an Issuing-out of the Gum, and then

it is that a Cherry-tree will sicken, and its Growth be retarded. But if this last Advice of mine is followed, a Cherry-tree may grow more in one Year, in Bulk of Body, than, if let alone, in six or seven, or more; because this Tree in particular grows with a round Bark, which, like a Hoop, would, in a great Degree, prevent its Increase. In the next Place, I shall take Notice of the ignorant Assurance of your Gardeners, who assert that there is no such Fruit as the black Kerroon Cherry. This is not the first time, that I have had Reason to maintain a Contest about this most excellent Cherry; which induces me the more to enlarge here on this Subject, and say, That your Gardeners may fall into this Mistake on two Accounts: For, first, It may be that they have lived many Years out of *Hertfordshire*, and, for this Reason, are unacquainted with the Kerroon. At *Gaddefden* we were, in a great measure, Strangers to this Cherry thirty Years ago; for, I believe, I may be positive of it, that I was the first that introduced this Cherry into our Parish, about the Year 1725; not but that it was growing in a few other Places in *Hertfordshire*, before then, as at *Northchurch*, a Village situate in the extremest Western Part of that County, &c. where this Fruit grew on Standard-trees in Orchards, and brought great Profit to their Planters and Owners; because, in that Time the Kerroon Cherry was scarce and rare; but now are so plenty, that Standard-trees of them grow on some Commons, particularly on ours, belonging to *Gaddefden*, and of which I have considerable Numbers at this time standing in my meadow and plowed Fields, where they thrive to Admiration, and are a pleasant Sight in Blossoming and Fruit-seasons, as they grow in Rows at convenient Distances; but I never heard of any red Sort of Kerroon Cherries; and, I dare say, they never saw any such (for I have

have pretty well searched the Nurseries near *London* for several Sorts of Cherries); unless the Word *Ker-roon* is taken by them to mean any of the finest Sort of red Cherrries; Which puts me in mind of a Dispute I had with a Lord's Gardener, who insisted on it, that the Word *Ker-roon* was a wrong Name given to this Cherry, and that *Belcher's* Black was the true Name of it, as proceeding from a Man whose Name was *Belcher*; who, I suppose, he imagin'd was the first Discoverer of it. But, alas! this is mere Conjecture, according to the Opinion of better Judges; who, to define the Word *Belcher*, say, it is a Word compounded of the two Words, *Bel* and *Cerise*, signifying, a fine Cherry: And, that the Word *Ker-roon* is a corrupt Name for Crown; importing, that a *Ker-roon* Cherry is the best of Cherries, as by the Crown is meant the best of any thing: Or your Gardeners may have lived in the *Eastern* Parts of *Hertfordshire*, about *Bishop-Stortford*, a considerable Market-town, lying near thirty Miles from *Gaddeſden*, and yet in the same County; where, I suppose, they are as much Strangers to the *Ker-roon* Cherry, even at this Time, as our People are to Broccoli or Celery; for neither of these are sold in any Market within eight Miles of *Gaddeſden*. But, as I hope I have said enough to convince you, that your Gardeners are mistaken, in asserting that there is no such Fruit, as a black *Ker-roon* Cherry, I shall proceed to write further on the Praise of this black and the red *May-duke* Cherry, &c. for, that these two Sorts, in particular, are endowed with many excellent Qualities. The different Colours of these two Cherries are very delightful to behold, as they hang on Standard-trees, planted in regular Rows for adorning Walks, Vistoes, or Avenues, in Fields, or Houses and Seats. No Japan can exceed the fine shining black Colour of the *Ker-roon* Cherry.

And,

And, among the Number of near thirty Sorts of Cherries, none are so wholesome as the black Kerroons; for this Cherry, though eaten in Excess, will not cause Sicknefs, nor Surfeiting, in Old or Young, as we daily experience, when they greedily eat them, in plentiful Years. If they did, many would die by eating them in *Hertfordshire*, as they carry on them more Flesh, and less Stone, than any of the Heart-kind, and of a Taste the most inviting. It is this Cherry, that is the most commodious Sort for enduring a long Carriage with the least Damage; and, therefore, a very proper Sort to plant, for sending Presents of them to considerable Distances; and, indeed, is the chiet Market-cherry we now depend on for selling quick, and returning the most Money. But what I have yet said, is only Part of the Perfections this Kerroon Cherry is endow'd with; for, it is not only a Cherry that graces a Table, by its fine Sight, and for yielding a luscious, pleasant Taste, and wholesome Juice, to the greatest Potentate, but is exceeding serviceable in the Cellar, because with these black Kerroon Cherries a most noble cordial Wine may be made, for drinking all the Year, in Imitation of Claret, but, perhaps, somewhat wholesomer, if made in such an artificial Manner, as I intend hereafter to make known, in a select Treatise, on this and other Liquors. So, for making a Cherry-brandy, no Cherry makes so cordial a Sort as the Kerroon; and, to my Taste, if a couple of Ingredients are added to it, I think, Visney itself is not so pleasant, nor so wholesome. In the last place, I think it necessary to say something of the profitable May-duke red Cherry. I believe, I have now growing in my plowed Fields between twenty and thirty May-duke Standard-trees, that never miss bearing a good Quantity; for this fine large Cherry is a constant Bearer; and, therefore,

fore, all Standard May-duke Cherry-trees, beyond all others, should have a Manure of rotten Dung, or Soot, or Ashes, or such other Assistance, laid on the Surface of the Ground, over their Roots, that may, by Winter Rains, have its Goodness washed down to them, for enabling this Tree to bear, and maintain much Fruit the Year following; and likewise, to furnish this Tree with such an Increase of Bearing-wood besides, that it may every Year make profitable Returns to its Owner. It is this large May-duke Cherry that deserves to be planted, next to the Kerroon, before all other Sorts of Cherries, for the sake of that peculiar and valuable Quality of its being the first Cherry that is ripe in our Plantations: And, as it thus precedes the Kerroon, it sells for the more Money. On the 29th of *June* 1745. I had several dozen Pounds Weight of May-duke Cherries gathered for Market, and sold at a good Price, when the Kerroon Cherries, at the same time, hung green on the Trees, and none of them were ripe, this backward, cold, rainy Summer, till the 16th Day of *July* following. It is true, that this early ripe Quality proves an Invitation to the voracious Field-fowls, to attack these Cherries as soon as they are turned red; and, if great Care is not taken to prevent them, they will devour most of them. But, by making use of proper Means, I do not understand the Charge of live Means, but dead ones, and such as I have found to answer my Intentions. Who then, that has the Conveniency of planting these two Sorts of Cherry-trees in inclosed Fields, will be without them? None, I think, that are sensible of their own Interest; because, the Black-cherry-tree Wood, when in its full Perfection of Growth, is worth nine or ten Pence a Foot; and to this it will arrive, and that to a considerable Bulk, much sooner than the Oak, the Beech, and some other Trees, and
 soonest

soonest of all, where Cattle most frequent ; for, in Summer-time, my Horses, Cows, and Sheep, are glad to get under these Trees, for sheltering and shading themselves against the violent Heats of the Sun ; and then it is, that by their dunging and staling, and trampling it into the Earth, they very much contribute to the fertile Growth of both Wood and Fruit. The Effect of this enabled me to sell a Black-cherry-tree, some Years ago, to a Carpenter for ten Pence a Foot ; who, as I remember, destin'd it for making Cabinet-work ; which this redish Wood will excellently well do, even to a Degree of counterfeiting Mahogany. It was this same Tree, that, for several Years, was the Admiration of the Country about it, for its Largeness ; for, I sold the Fruit of it, one Year, for a Guinea, and the Buyer was at the Charge of gathering it, and yet it was but a large wild Black-cherry : Had they been Kerroons, I don't suppose I should have made less of them, than near as much again. And now I am on this Subject, I have further to remark, that a May-duke, though a very large red Cherry, may be budded on the wild Stock of a Black-cherry in this Month, if not done before, which ought to be, and that in *June* or *July* ; however, I have known Buds to take so late, as in the Beginning of *August*. And for planting these Trees, in inclosed Fields, and plowed Lands, if the Ground is all of that Sort, you may (supposing the Field to lie square) plant Trees along its four Sides, by laying down a sufficient Quantity of it with Grass-seeds. One such Field I have at this Time, which is planted, on all its Sides, with Cherries, and other Fruit-trees, on Grass-balks. Now, such Balks ought to be forty-two Feet broad ; that is, the Rows of Trees should be planted at eighteen Feet Distance from the Hedge, and twenty-and-

four

four from the plowed Ground. By this, there will be a shady Walk in time, on both Sides the Trees, and the Horses will have full room to turn at the Land's-end.

Of the Damage that some greedy Tenants and others have done themselves and Landlords, in plowing up the poor Ground of Woulds, Downs, and Commons. —

You say, Sir, that your Estate is intirely your own; and I say, you have therefore the greater Encouragement to exert your Ability in improving it in the most desirable Manner: For where Power and Will accompany each other, what is it a Person cannot do? It is a common Custom throughout *England*, for an Owner to let the Land which is situated near a Town for the most Rent; and though your Soil about it is a hungry Sand, yet by the Plenty of Dung that your great Town makes, I should think it wants no Dressing: Yet, as Dung is of a hot Nature, as well as such a Soil, and therefore apt to burn the Crops of Corn that grow in it; the Barley in particular may be prevented coming under this Damage, if the Seed is first steeped, according to my Nitre-receipt, mentioned in my *Practical Farmer*; besides which, such a sandy Ground would produce excellent Crops of Turneps and Carrots, if the Seed was sown, and the Whole managed under good Husbandry. However, I find you are not altogether confined to a sandy Soil; you have several Sorts besides, which gives you the better Opportunity to enjoy a Change of Seed, and to sow various Sorts of Seeds. But as to your poor Woulds, I cannot help being of your Mind, that the greedy Farmer rather loses than gets by plowing such a barren Soil up; for altho' the shallow Surface of such Ground may last, while it is fresh, three or four Years in producing good Crops of Corn, in favourable Seasons, yet it must soon wear out, and cost more to dress

and manure, than the Value of the Return it makes, especially in a dry Summer; for, as you observe, there is a Loss attending such plowed Ground, while Crops or grass are growing on it, because the Farmer wants so much Grass to feed his folding Sheep, as there is Land thus plowed up. A notable Instance of this I well remember done in a chalky hurlocky Soil, where the Surface was so shallow, and, under that, such a barren stony Earth, that it would hold no Dressing long that was laid on it; for it would be soon wash'd down through the Joints and Crevices of the stony Hurlock; and then the Consequence was, that the Roots of the Grain became starved, or what we call burnt up, by Heat, and want of Moisture. However, a costly Trial was made, and the Plowing and Sowing of Grain continued a few Years, till at last the Owner was persuaded to lay it down with St. Foin; but even this did not answer his Expectation, because here was so hungry and dry a Bottom, that nothing would prosper long that was sown on it, I mean not so well; but the Toll was more than the Grist, or the Loss more than the Gain, which I take to be, as you say, the Case of your Tenants in ploughing and sowing their Would-lands. At last the Owner was provoked to let it lie after the St. Foin was worn out, and take a spontaneous Natural Grass, as it formerly had been; and it is now within a little Distance of my House, a paled, inclosed, large, poor Piece of feeding Ground, containing about one hundred Acres, that seldom has more Grass on it than the Common it joins to: However, as it comes clear, and without any Charge, and therefore yields its full Value for feeding a Flock of Sheep for the Fold, and serves beside to keep them in sound Health, free of any rot, except it be Hunger-rot; happy therefore are they who enjoy common Grazing-ground enough
near

near their Farm, for feeding a Flock of Sheep to fold their Land; because the Dung and Stale of Sheep is justly accounted the best of Dressing in most respects. Our Common at *Gaddefden*, tho' a little one, that contains but about two hundred Acres, yet helps to maintain four Farmers Flocks of Sheep, of which Number I am one, and the better as it is situated near our Habitation: By which we enrich our plow'd Grounds free of the Damage which a long Drift to a distant Common oftentimes occasions, and bring the Sheep, under; as the Foot-rot, the Scab, and a lean Carcase, with the Loss of much of their Dung: Therefore I join my Thoughts with yours, as you think to lay down all your plowed Would-lands, to graze and become a Sward of Natural Grass as heretofore. And I must say again, happy are those Farmers, who have common Grazing-ground enough near them, for helping to maintain their Flocks; for where there is no Common, and the Farmer is obliged to keep his Sheep always in his inclosed Ground, I think they won't answer for being thus kept for Folding, for several Reasons that I intend to make known, when I publish a certain Farmer's particular Case on this very Account, who has suffered many Years Loss, without seeing through the Cause of it.

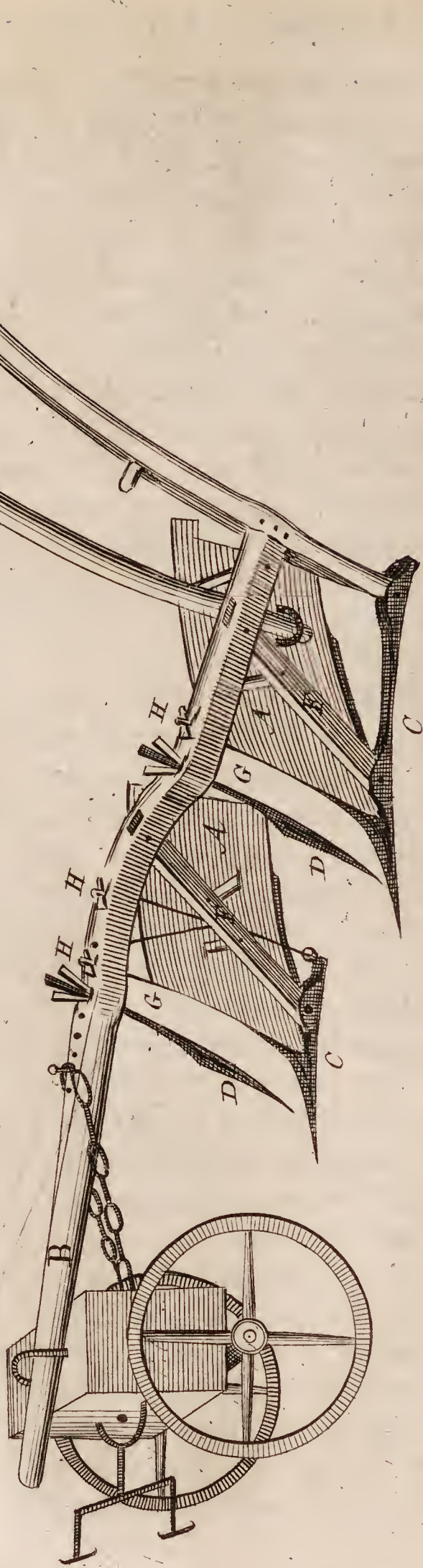
Of the Improvement of Land by the Use of the one-wheel single-hopper Drill-plough, and the two-wheel double-hopper Drill-plough, and double Hertfordshire two-wheel Plough. — The one-wheel Drill-plough is a Plough now in Use, for sowing Peas out of its Hopper in Drills, for the Conveniency of giving them two Hoeings, and thereby getting a roomy Opportunity for keeping the Land in a clean Tith-order, free of being infested and hurt by the Growth of Weeds: And when in this Method the *Carolina* large white Pea, or others of the early ripe Sort are sown, they never fail, if they grow

in a right Soil, to get the Crop off time enough to sow the same Ground with Turneps, and Rye, or Wheat; by which Piece of extraordinary good Husbandry, a Person may get a Crop of Peas, of Turneps, and of Rye, or Wheat, in less than a Year and a half's time, and dress the Land besides, with little or no Cost, by feeding the Sheep with the Turneps, and folding the Ground at the same time; and by which Management the Farmer seldom fails of enjoying a plentiful Crop of Turneps, and Wheat or Rye, after such a Crop of Wheat. But, to speak further in Praise of this one-wheel Drill-plough: It is one of the lightest Sorts of Drill-ploughs, and of excellent Service for sowing and forwarding, with the Help of a Horse-break, a Crop of Peas so early, that they'll come to a timely Market, either in Pescods, or in ripe hard Order: If they are gathered in green Pescods, their Haulm or Stalks of the green Peas may be made into a Sort of Hay, and so good, that I have known it do more Service than common Hay, and the Horses would eat it as soon; for then it would, if thoroughly cured, be of a delicate light bright-brown Colour, and so sweet, that Rabbits would greedily eat it. For which Purpose, the excellent *Carolina* Pea transcends, as being an early Sort, that is ripe almost at a time, and thereby gives the Farmer the better Opportunity to make a fine sweet Hay of its Haulm, or Straw, far beyond that which is made from ripe Pea-straw; for in this the Sap is so much wasted, and the Stalk so harsh, that it is not near so good as that made from green Pescods. Then after such a forward Crop of gathered green Peas, if a Crop of Turneps that succeeds them is pulled up, for the Kitchen-use, the Farmer will have Leisure-time enough to plow and dung the same Ground, and get it into perfect Order for sowing on the same Rye or Wheat;

I

for,

*The Wheel double Plow of Hartfordshire
invented & first try'd in Jan. 1732-3*



Scale of 3 Feet.

- | | | |
|------------------|---------------|---|
| A Broad Board, | D 2 Coulters, | G Hooks, |
| B Beam, | E Staple, | H Keys that locks the
Hooks w ^{ch} fastens y ^e Shares, |
| C 2 Iron Sheafs, | | |

for, after the Surface is dunged, one Plowing is generally sufficient for the Reception and good Growth of Rye or Wheat. If then such Husbandry does not deserve the Name of good, I don't know what does: But there is one better Opportunity for improving a Pea-crop, and also a Wheat-crop, than by employing the one-wheel Drill-plough; and that is, by making use of a three-wheel Drill-plough, that has two Hoppers fixed on it, that will hold about a Peck each of Soot, or Ashes, Oil-cake-powder, or Malt-dust, or any other pulverized Manure; which are so conveniently contrived, as to drop out the Manure on the Peas, Wheat, or any other Grain, Turnep, or artificial Seeds, immediately after any of the Seeds are fallen into the Drill, wherby they have their full Dressing of Manure, with the least Charge and Expence; for in this Action, a Seedsman's Labour and Time is saved in a double manner, one in sowing the Seed, the other in sowing the Manure; and at the same time, such Seed and Manure are certainly sowed far more regularly, and in a much lesser Quantity, than any Man can sow them out of his Hand; for, in this Case, a great deal of Manure and Seed is saved, because but a small Part of the Ground is sowed, and yet to as much or more Profit than if such Seeds and Manure were sown all over the Land, in the Broad-cast-way: Besides which, such Drilling-husbandry carries this Advantage with it, that the more Land you dress with Manure in Drills, the less you have to dress with the Fold: Therefore, your Number of Sheep may be made to dress the Land they are penn'd on, much the better. This is a Matter of very great Importance, even such as highly deserves to be examined into by all Gentlemen, who occupy such arable Land as is capable of being thus improved by this double hopper-Drill-plough. As to the double *Hertfordshire* two-wheel

wheel Plough, you are certainly highly in the right of it to have this, because it will suit your Sort of loamy light Land exceeding well: If the Value of this Double-plough was known, I am sure Thousands would have them; but I am sensible, that the main Objection which lies against their Use, is, that Ploughmen in other Countries know not how to work them. Now I cannot think, such an Objection carries sufficient Reason with it to hinder any Person's having one of them, who has enough of a proper Soil to employ it in; because where any Wheel-plough has been used before, it is no great Difficulty for such a Ploughman, with my Directions in writing, to hold and work this Double-plough; and if he is a little awkward at first, he will soon, by a little Practice, hold and work it well, as we frequently see done in our Parts; where, when a new Servant Ploughman, that never held a Double-plough, takes the Place of an old Servant Ploughman, as it is customary in *Hertfordshire* every Year to do, he presently acquires the Knowledge of it, and seldom fails of working it to his Master's Satisfaction. But I will suppose, that your Ploughman never saw nor work'd a Wheel-plough, and therefore has the less Reason to believe he cannot hold and work this double-wheel Plough: To this I answer, That it certainly must be a more difficult Matter for such an one to hold and work it, than a Ploughman that has been used to no other than common Wheel-ploughs: Yet, for all this I think if he is any thing of an Artist, he will hammer the Secret out of holding and working such a two-wheel double-shar'd Plough in a little time; for, in course, the last Sort of a Foot-ploughman must be longer learning its Use, than the first-Wheel-ploughman. But for an ample Account of the Uses of this two-wheel double-share Plough, I refer you to the Perusal
of

of my *Modern Husbandman*, where you may meet with it in more than in one Chapter. For now I shall proceed to answer the latter Part of your Letter.

A paradoxical Case answered by the Author, which was sent him by a learned Gentleman, who asserts, that by always dressing the same plow'd Ground with the Fold, it will produce good Crops of Grain.——

That Author, who undertakes to write a Book for improving the most noble Science of Husbandry, and cannot give a tolerable satisfactory Answer to any Queries relating to that Art, that a Gentleman may desire a Solution of, cannot be said to make good his Pretensions; and this must be the Case of that Man who has not been, nor is immediately, concerned in the experimental Part of Farming: But this is not my Condition, because I have been concern'd in employing, for above twenty Years together, more than twenty small inclosed Fields of plowed and meadow Land, consisting of various Soils, lying in divers Situations of high and low Ground, and in a Part of a Country called the *Chilturne*, that is contiguous to the fertile Vale of *Alesbury*; for our Parish of *Little-Gaddefden*, in *Hertfordshire*, joins to that of *Edlesborough*, in *Buckinghamshire*, and so near to *Bedfordshire*, that some of its Land is within about a Quarter of a Mile of some of ours; which gives me a large Opportunity of making Observations on the different Managements that are carried on in their arable and grazing Grounds: Yet even this extensive Opportunity would not serve my turn, if I had not travelled several Years, and took Diary-Accounts of the numerous Transactions I met with in the many Parts I travell'd in, and at last am oblig'd to write under such great Disadvantages; as first, The want of being furnished with such a Stock of Book-learning, as might enable me to answer the critical and nice Questions in Natural Philosophy, that such

Scholars

Scholars as you are replenish'd with. Secondly, As the want of being able to write in that elegant Style, which I know my Works in some degree fare the worse for, in the Esteem of those, who had rather be soothed into a Taste of reading an insipid Subject, if it is delivered in a scholastic Strain, than a more profitable Information, which an homely-dress'd Discourse may bring to them. Thirdly, As most or all of the Farmers about me are more illiterate Men than myself, I am forced to write with perhaps less Benefit of learned Conversation, than any Author that has yet appeared in a copious Print, on the Subjects of Agriculture. Fourthly, For want of a necessary Library, I am often put to my Shifts, and obliged to omit giving those satisfactory Answers, I otherwise should perhaps be capable of doing: And it is on this Account that I cannot make you a suitable Return to your Hint of the Man's Glasses in the Book of *Persian Tales*, which I never read, no more than I have done Mr. *Mortimer's* two Volumes on Husbandry, nor Mr. *Laurence's* Folio on the same; for I never was Owner of them, nor many others that I ought to have by me, for helping me in my present occasional Writings: However, I hope I shall make good the Title I have given this Paragraph, by answering your smart Tenets, by which you hold it an establish'd Maxim, as well as your ablest Farmers, that they cannot lay out their Money better than in Manure, which is always Cart-dung. In this I agree with you, and I believe all the World besides, supposing they cannot conveniently come by, and make use of, any other Sort: For Example, in the Vale of *Alesbury*, where they are Strangers to a Wheel-plough, and to plowing their Land cross-ways, because it always lies in Ridge and Furrow; they carry on their Farming every Year by the Fold, and by the Dung-cart;
nor

nor did I ever know one of them that did not use both when they could have them. And altho' there be some little Farmers that have not room, or can't afford, to keep a Flock of Sheep to fold, nor can buy Cart-dung for their Money; they then, on Necessity, hire their Folding of those that keep a Flock of Sheep for this Purpose, as many poor Men do in this Vale, that have hardly any other Land of their own, or that they rent, than an Orchard, or such-like Quantity of Ground; but do it by feeding their Sheep daily on an unfinted Common, and on the fallow Grounds of a whole Parish, which is free, according to the Custom of the Place, to all Persons to feed any Number of Sheep, that belong to it. But where any of their Farmers can afford it, they not only employ the Fold and Dung-cart, but send sometimes many Miles for Pigeons-dung, to dress their plowed Grounds with. I knew one of these Vale-farmers, that rented a plowed Farm of near two hundred a Year, send for Soot, to dress his black, loamy, clayey Land, that he sowed with Barley, to *London*, that lies above thirty-four Miles from him, and made use of his Fold and Cart-dung besides; so that none of the *Vale* nor *Chilturne* Farmers, as I know of, will trust altogether to the Fold, or the Dung-cart alone, for the Improvement of their Crops of Grain, unless mere Necessity oblige them to such a particular one, and the same Sort of Dressing; but will employ them Both where they can, and more Sorts besides, if they can get them: And I do assure you, Sir, I did not write on this Subject in my *Chilturne and Vale Farmer* only, because I would patronize a Thing right or wrong, for the sake of its being a Novelty: No; I thought I had good Reason to publish what I wrote as orthodox; and if I am mistaken in some Part of the Matter, it is unknown to me; but I shall postpone discussing

this Article any further here of dressing Ground always with Cart-dung, till the next Month of *September*, as I intended to insert in it the Case of a Person's spoiling his Crop, by always dressing his Ground with Cart-dung; and now endeavour to answer the seeming Paradox, That dressing Ground always with the Fold does it Damage. This is a Matter, I presume, that never any Author to this Day undertook to prove; and how I shall come off, I submit to yours, and the Judgment of my Readers. Your Notion of folding all Ground, in order for making it produce fertile Crops of Grain, is certainly good, provided it is done in an alternate way; that is, sometimes with the Fold, and sometimes with Cart-dung: But to dress it always with the Fold, I absolutely deny to be right Husbandry; and I do affirm for Truth, That whoever folds one Piece of Ground every Year, and many Years together, for getting a full Crop of Grain every time on it, will find themselves mistaken in their Hopes: Nay, I will carry the Matter further, and proceed to prove, that if a Person folds such Ground only once in three Years, and continues this Custom many Years, he will also find himself in the wrong of it; which I thus make out: The Dung and Stale of Sheep is known, to all that make use of them, to be a most thin Dressing of the Ground; for although the Dung and Stale of Sheep administers a Nutriment to the Earth, yet it does not do it in such a plentiful Degree, as to last above one Year to a good Purpose; and therefore it is we look on the Wheat-crop to be improved by it. But the next Year's Lent-crop has but little Share in its Fertility, because we reckon its Virtue lasts but one Year; for, at best, the Dung and Stale of Sheep, that eat nothing but Grass, is allowed to be but a cold Dressing to the Ground; and that Soot, which is the thinnest of
Manures,

Manures, exceeds it in respect of Duration; for that this black Dressing is endowed with such sulphureous and nitrous Qualities, as to assist the Land it is laid on two Years together. However, sure I am, that neither the Fold, nor Soot, nor Lime, nor Ashes, nor Oil-cake Powder, nor Malt-dust, will answer a Farmer's Interest, if he always dresses his Land with any one of them. The Reason is, that as any of these gives the Ground it is laid on, only a very thin Coat or Dressing, it does not thicken the Surface; consequently the Surface, which is the richest Part of the Earth, and which in most Places lies shallow, will be soon worn out, and then most certainly ensues Barrenness: For is it obvious, that by frequent Plowings, the top Earth is made short, fine, and loose; and the shorter, finer, and looser it is, the more liable will it be to be wasted by the frequent Washings of great Rains, and the Soakings of deep Snows; insomuch that, notwithstanding your plowed Grounds should be every Year, or every third Year folded on, and continued so for many Years; yet the fertile Part of the Surface will be so diminished, and worn out, as to bear little else than Weeds: But were it not, that a Continuance of folding the Ground every Year, or every third Year, does not wear out the best Quality of the Superficies of the Earth; I say again, that a continued Sameness of Dressing will not agree with it so well, as where a Change of Dressing is now-and-then given it: And so exact is this Article of good Husbandry regarded by both *Chilturne* and *Vale* Farmers, that it is customary for every sixth Year to allow the Ground a different Sort of Dressing to that laid on the Fallow the third Year before; that is to say, if the first Fallow is dressed with the Fold, the next Fallow they dress with Cart-dung, and so on alternately: Nor do we pay less Regard to the Change of Seed, as well

knowing, that if one and the same Seed is always sown on the same Ground, it may be thus sown, till it degenerates into a worse Sort than its Original was. For Example, Let Oats be sown only once in three Years, on the same Ground, and continued to be thus sown for many Years together, they will at last grow into a wildish Sort, and hardly be bought by any at Market, as being unfit for the Use of Man and Beast: And the same Reason that is here assigned for the Degeneracy of Oats, affects all other Grains in a lesser or greater Degree, that are sowed as they are. You say, That the Earth has its Exercise. It certainly has; and therefore the *Hertfordshire* Farmer declares against cross-cropping his inclosed *Chilturne* dry Lands; saying, That where this is much practised, the Farmer will so damage them, that he will not have above Half-crops of Grain; which brings such an one justly under the Proverb of, *All covet, all lose*. Now what I mean by cross-cropping of Land, is, when a Farmer sows his Ground, every Year without allowing it a regular Fallow, once in three or four Years; and then our Saying is, He'll wear out his Ground, though he dresses it every Year, with a different Sort of Dressing: For it is a general Notion with us, that neither a dry Loam, a gravelly Loam, a chalky Loam, nor a clayey Loam will bear being cropp'd every Year, since it is true a Maxim, that continual Fruitfulness makes a Field barren, because the Earth has not Time nor Opportunity to get sweet and fine, and be refreshed by Rest and the Summer Air and Dews. On this account, I am ready to compare the Earth to a Beast; for though you feed an Horse ever so well, yet you may work him off his Stomach, till he will not eat Meat enough to support him under his Work: Nay, I believe I may affirm it for Truth, that many Horses have died, by being brought into Sickness, merely by being over-work'd;

work'd ; and yet had as much Meat given them, as they would eat. Much the same is it with most Sorts of Land, that may be dress'd and sown every Year, for some Years together, without giving it a regular Fallow ; but then the Consequence will be, that, by thus forcing it into a constant Exercise, and working it without Rest, it will bring forth little else than Weeds. And for the Truth of this my Assertion, I appeal to the Judgment of the judicious experienced Farmer ; who, I doubt not, will my Guarantee on this Account, which, I think, plainly shews that the Earth, as well as Beast, may be exercised to that Degree of Excess, as to bring the Owner of one, or both, under a Loss ; notwithstanding all the Dressing that can be given the first, and all the Meat that can be given the last. Hence, then, I am of Opinion, your Argument or Comparison will not stand a Test, that you advance by saying, ' Set a Joint of good Meat ' before my Plowman, or Labourers, every Day the ' same ; give them but enough, and I will answer ' for them they will behave themselves very well in ' their several Attacks, and be lusty and healthy at the Year's End'. This may be true, as to Men, because with good Rest they will be refresh'd, and recover themselves for new Labour, without suffering an Excess of it, and a swift Decay of Nature : But I can't think it so with the Earth, that has every third Year the same Dressing of Folding, and this for some fallow Years together ; becaule, as I said, the thin Coat of Sheep-dressing does not prevent its Surface suffering a swift Decay, by a Diminution and Wasting of its better Parts ; and therefore there is a Necessity for thickening the Surface of the Ground now-and-then, by the Application of a different, but proper substantial Manure, which I intend to give an Account of, in *September* ; and, in *October*, to publish the particular
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and odd Case of a certain Farmer, who, tho' he was always from his Infancy brought up to the Plough, yet fell into, and continued so long under, the Mistake of keeping a large Flock of Sheep, that he greatly suffered by it: Also, the Case of two other Farmers, his Neighbours, who grew rich, by keeping about three hundred Sheep apiece. So different is the Management of Farming, which therefore may be justly deemed such a mysterious Science, as never to be fully known; nor can it be better known in Part, than by publishing the Facts and Cases that have befallen others: A way of Instruction, that surpasses all the Theory of the most learned Philosophers; and which makes it absolutely necessary, and a Matter of the greatest Importance, for me, and other Authors, to write in this experienced Manner, preferable to all others: And which I could do in a much more effectual way, were I supported to make Discoveries, with an Encouragement adequate to so useful a Purpose.

Of the Advantages that attend the Penning of Sheep on plowed Grounds, when such Dressing is made use of in an Husband like-manner; that is to say, as a true alternate Dressing.——As I have before shewn the Disadvantages that attend the constant Penning of Sheep every Year, for several triennial Seasons successively, without admitting any other Sort of Dressing made use of between them; I come now to shew the Advantages that attend such Penning or Folding of Sheep on plowed Grounds, when Dressings of Cart-dung are laid on such Ground alternately; that is to say, If the Fallow-ground for a Wheat or Rye-crop is dress'd this Year, by Penning of Sheep on it, the next Season, which is the third Year, should be dress'd with the Dung-cart. But when I say Dung, it should be such as is truly digested and rotten, before it is laid on; because, if Stable-dung is laid on plow'd Ground, just before
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the Corn is sown, in an undigested and unrotten Condition, it is apt to destroy Vegetation, instead of promoting it, by heating and burning the tender Plant it should gradually nourish: Nor can it administer such Nourishment as is necessary for a Corn-crop, if it had not such an heating and burning Quality belonging to it; because long Dung will lie in Parcels, and uneven, in the Earth; so that those Roots, which lie next and close to it, will be apt to be burnt and killed; while others in vacant Places, where Dung does not assist them, have no Share or Benefit of such unrotten Dung: Or, if such hot Dung does not kill the Plant, it is very probable, if laid on too forward, and producing a plentiful Crop of Wheat, that it will canker Roots, and bring Part of the Crop under Smut or Pepper-wheat. Secondly, Such long Dung will hollow the Ground so, as to cause the Wheat to fall down before Harvest: And when this happens to be the Case, while it is in its green Ear, the Crop in course will be most of it spoiled, by being thus made to fall, and produce the Kernels of half the usual Substance of full-grown ones. I knew a Gentleman that kept a Pair of Coach-horses, and some Saddle-nags, who lost great Part of his Crop of Wheat, by dressing his Land with undigested Dung, which was unrotten, and so long, that it heated and cankered the Roots of it, and bred such a Quantity of smutty-eared Wheat, that the whole Crop was not worth Two-thirds of a sound Crop; notwithstanding he took the prudent Precaution of brining and liming his Wheat-seed. And so nice are our illiterate Farmers, that, from the Rule of Experience, they find it best to change their Seed and Manure, now-and-then: If they fold this time, they cart-dung next, with rotten, short Dung; because Sheeps-dung and Urine fertilize Ground, but do not thicken it: They think themselves oblig'd

to thicken the Land with such rotten short Dung to prevent a Decay of it; or else in a few Years they reckon their Labour and Cost will be lost in Farming: And, even in the Management of rotten Dung, there requires Skill and Care in its Application to Land, as I shall shew by the Cases of two Farmers, by-and-by: For here I am to inlarge on the Benefits that belong to the Penning and Folding of Sheep, to dress Land, &c. which are numerous: For, first, As to the Dressing of Land by Sheep; while they are penning and dunging it, they do at the same time rather prevent the Breed of Worms, than increase it; for no Reptile can agree with the Urine of any Beast: And this I take to be one of the strongest Sorts, as being somewhat of the Nature of their strong-scented Wool. Secondly, As Sheep are their own Porters, they carry their Dung and Urine to distant Fields, free of any other Charge than a Shepherd and his Dog, where they have their Grazing on Commons and in Fallow-grounds. Thirdly, The Dressing of Sheep may be made use of as an alternate one, and thereby gives the Ground a natural and refreshing Assistance; especially, when it succeeds the Manure of Cart-dung. Fourthly, The Penning of Sheep gives many Farmers a most valuable Opportunity to get the best of Crops of Wheat, Barley, and other Grains, and Turneps, and Grasses: I mean hereby the Head, as well as by the Dung and Urine of Sheep; for it is a present Practice both in *Vale* and *Chilturne* Grounds, to fold Wheat and Barley, after the Seed is sown; especially on that Wheat-seed which is sown on a Lay of Clover, or Natural Grass, when only one Plowing (as the usual Way is) is given it, and the Seed harrowed in; then it is that these most serviceable Creatures, by penning them on it, not only dress and enrich the Ground, but tread in the Seed, and so fasten it, that neither Winds nor
Rains

Rains can blow nor beat down its Stalks, nor blow nor wash away the Mould from off the Roots: Whereas, without such their treading-in the Seed, as it lies in this loose shallow Situation, the Wheat would be apt to grow up and stand so weak, and be thereby so much under the Power of great Winds and Rains, that it is rarely known to escape falling down in its green Ear; and then it generally returns the Farmer not above half a full Crop of this golden pay-rent Grain: But whether such Penning of Sheep be applied to Wheat-feed, sown on Lays of Grass, or on Wheat-feed just sown on Tith Broad-lands, it has the same Effect: So likewise, where this excellent Piece of Husbandry is practised on Barley-crops, it answers the same profitable Ends. Therefore, it is now a common Practice, both in *Vale* and *Chilturue* Countries, where a Farmer can conveniently do it, for him to pen or fold his Sheep, on his new-sown Barley-feed. In this last Spring-season of 1745, I folded my Sheep on Part of a Barley-field; and the other Part of the same Field I sooted, by sowing over it about twenty Bushels of *London* Soot on each Acre: And though a rainy Summer attended the Crop, I believe I may say, that so far as the Fold was set, the Barley was near as good again as where it was sooted: But then this is to be remark'd, that if such Folding had not followed some other Sort of alternate Dressings, I had not had Reason to expect such Success. So in Fields of new-sown Canary-feed, this Piece of excellent Husbandry may be practised in dry Weather; for in wet Weather, Penning of Sheep on Wheat, Barley, Canary-feed, or Turnep-feed, &c. ought not to be practised, lest their Feet do more Harm than Good; because, in this Condition, they would tread and stolch up, and remove the Seed from the regular Parts of the Earth it was at first sown in; and then the Con-

sequence will be, that the Crop comes up too thick in some Places, and too thin in others. The same also on new-sown Turnep-seed: Folding on this, not only dresses the Ground, but forces on their Growth, as well as it does all other Vegetables. It is thus used on with great Expedition, increases their Bulk to Admiration, and ensures all their Crops against the Damage of Flies and Slugs; for so hateful is the Scent of Sheeps-wool, Dung, and Urine, that these Reptiles dare not annoy them.

The Copy of a second Letter from the aforesaid curious, learned, experienced Gentleman, to the Author, who gratefully acknowledges his Trouble.

Mr. Ellis,

I Am obliged to you for your long Letter; for I know the Multiplicity of your Affairs won't give you Leisure to write many such: But as I would not have you, as Mr. Dryden said *Plutarch* did, light yourself up like a Taper, to be wasted for the Benefit of others; so you may be always sure of a Gratification from me, for whatever Trouble I put you to. Here they make as good Hams as any-where, and send them up to *London*, where I shall give you an Order for one. I should be glad to have the Drill-plough you mention, for Beans and Peas: The Holes, or whatever they are that let out the Seed, must be big enough for Tick-beans; but as I have Wheels of most Sizes by me, two of them may be saved; but I would have the middle Wheel put on, and the Axle-tree for the two other Wheels put on also, and all made ready; so that, when it comes, it may want nothing but those two Wheels putting on. Ask the Man if it could not be made to sow Turnep, or Carrot, or Cabbage-seed; also St. Foin, and other Hay-seeds: I should think it might, with changing the Axle-tree

tree of the middle Wheel: Let it be made so, if it can. As soon as you know what it will cost, let me know, for I can't order you the Money before; as also the Price of the Machine for cleaning Corn; for if you have seen it yourself, and are sure it will perform as well as you say, I shall have one. You may call for a Ham, at Mr. ———, in ——— Lane, near the ———, in *London*. ———

I am, &c.

C H A P. VI.

The Cheshire and Lancashire way of reaping and afterwards securing Wheat-crops against the Damage of Rains.

Notwithstanding what I have written on this Account, in my *Modern Husbandman*, my Readers will find something new in the following one, of preserving Wheat in the Field after it is cut: Nor ought it to be objected, that I write twice on the same Subject, since I have new and frequent Informations of Husbandry, from divers Parts of this Kingdom, both by ocular Demonstration, by verbal Declarations, and by written Accounts of the same, from Gentlemen and Correspondents: Always, say they, begin to reap your Wheat before it is full ripe, if the Weather permits, that when you come to reap the latter Part of your Crop, it may not be over-ripe, so as to shed. But to avoid the two Extremes, of cutting it too soon, or too late, due Regard ought to be had to them; for if Wheat is reap'd too soon, the Kernels will be shrunk and shrivelled, be thick-skin'd, and have tough and less Flour in them; nor can they be thresh'd out of the Ears so soon, as when it is moderately ripe, nor part with its Chaff like that

which is riper, nor grind so well; because its Skin or Bran will not separate from its Flour like that Wheat which is better cured; and when this is the Case, it must consequently bring the Flour, or Mealman, under a Loss: And therefore, as these Sort of Buyers of Wheat are generally Men that are Masters of their Business, and know such unripe Wheat on Sight, they will not give more than a poor Price for it; and then the Farmer comes in to be sometimes a great Sufferer; not but that such unripe Kernels may fill a Bushel as soon, or sooner than a riper Wheat, because the guttery Parts of the Kernels take up as much, or more room than a solid Kernel, and by their Lightness may fill the Measure sooner than riper and heavier Wheat. But as some Mealmen, to prove the Value of Wheat, weigh it, the Difference is easily discovered, and a Price given accordingly for it. When they begin to reap, each Man takes half a Broad-land, and always endeavours to save the tallest Wheat, to make Bands with, which is what grows on the Ridge-part of the Land. When a Band is made, it is laid cross the Ground; and as the Hand fills, the Wheat is laid into it, till there be enough to make a moderate Sheaf, and then it is bound up: As it is binding, they turn the Ears of the Band uppermost, in order for their better drying and taking the Sheaf the readier up, for placing its Ears inmost: Then, if the Weather is unsettled, and likely to rain, as soon as they have got a sufficient Number of Sheaves bound up, to make a few Shocks, they set up no more than ten Sheaves to one Shock, in all; that is to say, four erect on each Side, and one at Top on each End, for covering the Whole. But in case the Weather promises fair, they don't set up their Sheaves in Shocks, till towards Night; but always the same Day, whether there be Weeds or no
Weeds

Weeds among it, or whether the Weather be settled, or unsettled. When the Sheaves are about setting up, they always begin in the Middle, and so proceed to each End of a Shock, observing to set the bottom Part of them a little wider than ordinary, till the whole eight Sheaves, in a Row, are set up in a Shock: By this Method of Proceeding, the Shock will stand the firmer, and so, that no moderate Wind can blow them down; then take the two longest and biggest Sheaves, and clap one of them against your Knee, for extending its Ears, so that half the Shock may be well covered by it: Then take the other Sheaf, and cover its opposite End, in like Manner, as you did the first: When this is done, as the two top-covering Sheaves lie with their Ears downwards, and their Back-parts upwards, clap your Hand to each Sheaf, and squeeze and close them together; for the closer their Back-parts lie, the better they will throw off the Rain, and prevent its getting down between them; for they will thus lie, like the Ridge of a House, and cover the Tops and Ears of all the eight Sheaves, so that no moderate Rain can damage them, if the Shocks lie abroad a Fortnight together: But then the Top-sheaf must not be displaced in all the time, unless there be the greatest Necessity for it, which seldom happens. Now, why I say, that the Top-sheaves must not be displaced, whether the Sheaves be weedy or not, is, because, if these Top-sheaves are displaced, they can never be made to settle so close again, as at first: The Truth of which, repeated Experience warrants, that Sheaves of Wheat, set up in this manner, are much safer preserved from Rains, than in any other Posture whatsoever; though it may be objected, that if weedy Sheaves are bound up, and set erect in this close Form, as the Weeds are now in a sappy Condition, such confined Weeds cannot

cannot dry, but will damage the dry Wheat with their Moisture. To which I answer, That when these Sheaves are set up in the before-mentioned Manner, the Heat of the Weeds may cause a little Fermentation; but then such a Fermentation cannot be prejudicial to the Wheat, because, as these Shocks must not be housed, under ten or fourteen Days standing in the Field, such Heat and Fermentation will be gradually dispersed; and the sooner, for not being disturbed, while they stand in such a few Number of Sheaves; provided always, and it is the constant Practice of this Country, never to begin reaping, till the Dew is dried away and dispersed: And for this Reason it is, that they seldom begin reaping till eight of the Clock, in order to avoid that Dampness which would certainly accompany the Stalks, and Ears of the Wheat, if they reaped it earlier in a Morning; and then, if they were bound up in such a moist Condition, the Consequence would be, that the Sheaves would not get dry in any reasonable time; and if they were housed, before they are thoroughly dried, the Wheat would very likely mould and stink, or at least remain in such a damp tough Order, that it would neither thresh well, nor grind well.

The Hertfordshire way of reaping and binding Wheat. — Our Way is, to begin Reaping at Five of the Clock in the Morning, if it does not rain much; for we are so far from being afraid to reap because of the Dew, as they are in *Cheshire* and *Lancashire*, that a very small Rain does not hinder us. Here, we chuse to make our Bands in a dewy Morning, because the Straw is then in a moist tough Condition, and much fitter, and surer to bind up Wheat in, than when it is dry; for that then it is brittle, will work short, and be apt to break in the Twisting of it: Here we commonly compose our Shocks of Wheat with fifteen
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Sheaves,

Sheaves, six of each Side, one at the End, and two at the Top, if Occasion be; but we seldom cap with the two top-end Sheaves, unless Rains are apprehended to fall quickly: And on this Account it is, that I think we *Hertfordshire* Farmers are in the wrong of it, for so doing, because if Rains fall in hasty Showers, and continue, it is not these two Sheaves that can keep thirteen others dry long; and therefore it is my Opinion, that he who composes his Shocks of no more than ten or twelve Sheaves, is much more in the right of it than we are: But an old Custom is so prevalent, in most Places of the Country, that it is almost an insuperable Task for any to reason them out of it; else the *Welsh* way of making Shocks of Wheat would be more in Fashion than it is, as I am going to shew.

The Welsh way of shocking Sheaves of Wheat.—When they are ready to put their twelve Sheaves into Shocks, they put up two Sheaves in an erect Posture, one against the other; this done, they put a Sheaf at each End, so that these four Sheaves stand erect, in a sort of square Posture: Then they proceed, in putting up four more Sheaves, close to the last four, and in the same square Form, the last four were put up in; which, with an odd Sheaf, that they put up at one End of the eight, makes nine in all, standing in a close erect Order. Then it is that they lay three Sheaves over the Top of all the nine, to cover them from the Rain; that is to say, they lay two Sheaves long-ways on the nine, so that the Back-parts and Ears of the two Top-sheaves lie one and the same Way: Then they immediately take up a few Straws of each Top-sheaf, and, by giving them a Twist, fasten them together, for preventing Winds and Rains blowing and breaking them off. When they have proceeded thus far, they lay the twelfth Sheaf long-ways,

ways, in the middle of the Top-sheaves, to lie as it were between them; and in this manner these three Top-sheaves cover the nine erected ones, in a very safe and secure Posture, from the Damage of Rains; because, in this Method of placing them, they lie somewhat like the Ridge of a House.

Observations on the Hertfordshire, the Cheshire, and the Welsh ways of shocking Wheat-sheaves — The *Cheshire* and the *Welsh* ways of shocking Wheat-sheaves are undoubtedly the best Ways of all others, even much better, than what I said we practise in *Hertfordshire*; where, by letting our fifteen Sheaves stand erect and open to the Weather, we oftentimes suffer by Rains, that cause the Ears of Corn to sprout and grow, before we get them into the Barn: And this we partly suffer by an obstinate Humour, in not going out of the old wrong Road of Practice, for doing better; and this chiefly, on account of a weak Objection; *viz.* That if Rains fall upon these fifteen erected Sheaves of Wheat, whose Ears stand uncovered to the open Air; Why, then, say they, as they stand thus uncovered, they will soon dry again. But this their Mistake, they have found, turn'd to their great Disadvantage; and been obliged, after long Rains, to unbind their Sheaves, to lay them spread a second time on the Earth, the better to receive the Benefit of drying; and at last, when Rains have continued, been forced to carry home their Wheat-sheaves, with their Ears in a growing Condition, to their very great Loss; for when Wheat is thus grown in the Field, it will not yield above Two-thirds of the Price of sound Wheat; and then that Profit, which should crown a Farmer's Labour and Charge, is lost. Therefore the *Kentish*, the *Middlesex*, and the *Cheshire* Men, who reap and bind, as they go, to preserve the fine Colour of the Wheat, and secure it the better from the
Damage

Damage of Damps and Rains, are more in the right of it, than we *Hertfordshire* Farmers, that reap a whole Field, before we make a Band; and which Mismanagement makes us the more liable to have our Wheat suffer by rainy Weather, which has often happened to be the Case, to our Detriment; for it is a Maxim in Farming, That as Wheat comes out of the Field, so it will come out of the Barn.

C H A P. VII.

Of five chief Articles in Husbandry, for the Practice of which the Farmers in a certain County call themselves more famous, than any others in England.

THE Farmers I here hint at, pretend to be greater Masters of the Art of Husbandry, than any others; and this especially, for five Things, *viz.* Plowing, Mowing, Raking, Breaking or Hoeing, and Binding of Corn; which several Articles I shall examine, as follows:

First, I shall examine their Article of Plowing. In this County of *Kent*, there was formerly hardly any other Plough made use of than the Turnwrist-plough; one Sort of which was work'd without Wheels, and the other, with two Wheels. The two-wheel Turnwrist-plough is made to plow either hilly or level Grounds; and I must own with Assurance, that no Plough is so properly made, to plow those Grounds, that lie on the Sides of Hills, as this Turnwrist-plough, because by the Help of its shifting the Turnwrist Piece of Wood, they can turn every Furrow down Hill, if they find it answer their Profit: And it many times does answer their Profit, because, by so doing, there is no Partition-furrow, or vacant Ground left; but all the whole Land, when thus plowed, will lie in even Furrows; whereby the Corn, or Grass, or Turn-

H neps,

neps, or Would, or other Vegetable, that may be sown here, will grow in an intire even Crop; which is what cannot be said to be, where Ground is plowed in Broad-lands, or what is commonly called, Round-work; as we for the most part do in *Hertfordshire*, and as they do who live in Vales: We, with our two-wheel single Broad-board-plough, and they with their Foot-plough, which causes a Broad-land; consisting generally of four or five Swarths, each Swarth four or five Feet in Breadth, to lie plow'd in two different Ways, half the Furrows one Way, and half the other; and then there always remains a vacant Place in the middle of the Broad-land, that seldom bears so much Corn as the other Part of the Ground; because this open Thorough, or Piece of Land, of the Breadth of two common Furrows, as its Surface is turned from off it both Ways, is the barrenest Part of the whole Field; and the larger the Field is, the more barren naked Thorowgs there are, that consequently yield less Grain, and the more Weeds. Now this barren Misfortune of having Grain growing in vacant Thorowgs, or Partitions of Broad-lands, is by this Turnwrist-plough, intirely prevented; and not only prevented, but by plowing down Land on the Side of Hills, its Work is made much easier to the Horses, and more Ground may be plowed in a Day, than when it is plowed in Broad-lands: Not that the Turnwrist-plough is wholly confined to the Plowing of Land all one Way; it will also plow Broad-lands, by working it without shifting its Piece of Wood, that serves instead of a Broad-board. So that this two-wheel Turnwrist-plough will do more Variety of Work, than our *Hertfordshire* two-wheel Plough can; and it is certainly the best Sort of Plough in *England*, for plowing the Side of Hills, and level dry Grounds; provided it is made light, which few are: For I have seen several of them, whose two wooden Wheels were so
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thod with Iron-tyre, that they seemed to be as heavy, and as big, as any two Fore-wheels of a Coach I ever saw; and when it is thus made, it may be said to be the heaviest Single-plough now in Use. But I have also seen as light a two-wheel Turnwrist-plough, as ever I did a two-wheel *Hertfordshire* Plough; and as the Plowman was then at Work with it in a large, level, dry, loamy Field, containing, I believe, about twenty Acres, I asked him Leave to let me hold it a little Way; which I did, and found it work'd easy, without making so much as one vacant Furrow throughout this great Field; consequently then, all Corn that is sown in such dry Grounds, whether they lie level, or side-long, must grow truer and better than when it is sown in Broad-lands. The Objection against the Use of this two-wheel Turnwrist-plough is, that all Land which lies obnoxious to be damaged by Rains, is unfit to be plowed with this Plough, because it leaves no Water-thoroughs. It is for this Reason therefore, and also for that the two-wheel Turnwrist-plough is generally made so heavy, that it is of late, in some Parts of this County, much in Disuse; and another lighter, much lighter one, introduced in its room; and that is, the two-boarded Swing-plough, that has no Wheels, and yet answers their Purpose extreme well, in all level, dry, and even in some moist, loamy Grounds, where this Plough may be drawn with much more Ease to the Horses, than the two-wheel Turnwrist-plough can; for by the Use of this Plough three Horses can do as much Work, and as well, as four can, in drawing the two-wheel Turnwrist-plough: And therefore this Turnwrist-plough is every Year, in some Parts of the County or other, supplanted by this Swing-plough, and that with a great deal of Applause; except it be where, as I said, the Sides of Hills are to be plowed; for here no Plough

whatsoever can perform its Work so well as the two-wheel Turnwrist-plough. There is another Sort of Turnwrist-plough, that goes with a Chissel-point, and works in wet Grounds instead of a Foot-plough; but I cannot commend its Use, because the Swing-plough will discharge such Work much better. But tho' these Farmers have lately introduced the Swing-plough into their County, and have received a Benefit by it, ever since they have put it into common Practice, yet they are still short of being completely furnished with the most serviceable Plough of all others, because they have not the late Patent-plough among them; which is the lightest of all Ploughs, and yet so strongly made, as to employ two, three, or four Horses in dry and moist Grounds: For this excellent Plough has no Wheels, and but a very slight Socket-share, that weighs hardly more than six Pounds; will turn a Furrow better than any other Plough now used in *England*; will work clearer of Dirt; and may be made to do more Work in one Day, with fewer Horses, than any other Plough whatsoever. From which I infer, and I have too frankly own'd it, that these Farmers, considering how dextrously, and better than all others, they plow the Sides of Hills with their two-wheel Turnwrist-plough, are better Husbandmen on that Account, than we *Hertfordshire* Farmers are. But, take away from them that particular way of Plowing, the *Hertfordshire* Farmers, I think, go beyond them, and all others, for plowing their Ground clean, and bringing it into a fine sweet Tilth, as soon as, if not sooner than, any other Farmers in *England*.

In the second place, I shall examine their Mowing. As to the Mowing-part, that they insist on to have a greater Knowledge in, and are more acute in the Practice, than any other Men in *England*; I must consent to give them their due
Praise

Praise for the same, because they assuredly are more perfect in the Exercise of the Sithe and Cradle, than any other County is, for that they use it more than any other : And this they are necessitated to do, as they are resolutely bent to bind up all the Barley, and Oats, and Beans, they possibly can, in Sheaves, for the great Conveniency they thereby enjoy, in drying their Corn, securing it from Rain, loading and unloading it with Ease and Expedition, and threshing it out sooner, than that Barley, and Oats, and Beans, which are carried into the Barn in the promiscuous and loose Way : Therefore, on this Account, they certainly exceed all other Husbandmen in *England*, and indeed with good Reason, for that they have left off an old erroneous Custom of mowing Corn with the bare Sithe, for practising a newer and much better ; and which they could not do, in the Perfection they now carry it on, if they were not Masters of the Art of cradling Corn ; for, by mowing it with Sithe and Cradle, one Man may mow two or three Acres of Barley, or Oats, in a Day, cut it perfectly clean, and lay it in true regular Rows, as he mows it, ready for the Raker : On which Work these Farmers are so intent, that they'll cradle that Barley, that Oat, and that Horse-bean Crop, which we in *Hertfordshire*, and in most other Counties in *England* refuse to do ; and all because they will bind up all the Corn they possibly can ; for when a Crop of Barley, or Oats, stands bent, or is a little laid, or grows too thick and high, we refuse to mow it with Sithe and Cradle. But if these Farmers refuse to do it, it is because it is very much laid and scraled indeed ; and they are certainly, as I said, in the right of mowing it with Sithe and Cradle, where it can be done : And this Work may be done, even where a Crop of Barley, Oats, or Beans, stand very thick and high, if

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a Cradle of three strong wooden Ribs is employ'd, when it can't be so well done with a common four-ribbed Cradle, because a four-ribbed one is weaker, and will not enter the Corn so quick and easy as a three-ribbed one can. And when Barley, Oats, or Horse-beans, are thus mowed with a Sithe and Cradle, the Corn always lies one Way free of any confused Entanglement, which a random Mowing of it always brings it under, and renders it unfit to be bound up in Sheaves, or small Bundles, for threshing it the better, &c. As this Practice then of mowing Barley, Oats, and Beans, with a Sithe and Cradle, is attended with so much Profit, all *Chilturne* Farmers especially ought to come into it as soon as possible, for dispatching the most Work in the least Time, and giving the Grain the best Cure, both in Field and Barn, according to the Example I have here published; and for these Reasons it is, that all Corn-farmers should be provided with two Sorts of Cradles; one with four Ribs, and the other with three, that where the Barley, or Oats, or Beans, stand, or lie convenient to be cut with one Sort, they may be better done with the other.

In the third place, I shall examine the Service of their raking Barley, Oats, and Horse-beans; for which these famous likewise say, they are more Farmers than all others; and I think so they are, because they were certainly the first Inventors of this new and most valuable Piece of Husbandry, which is of such Importance to their Interest, that they never neglect putting it in Practice, when it may be done; which Practice renders them such perfect Masters of it, that they will rake and bind up a great deal of Barley, Oats, and Horse-beans, in one Day, by the Help of their five-toothed, long, Swan-neck'd, wooden, crook-ed-handle Rake, that a Man with one Motion, or
Hale-to,

Hale-to, on each Side of him, as he stands still, will rake up a Parcel of Grain in a trice, and leave it in a Heap just big enough to be bound up for one Sheaf, or Bundle, by the Labourer that immediately follows this nimble, acute Raker. And thus these two Men proceed in raking and binding a small Field of Barley, or Oats, or Horse-beans, in a very little time, that was mowed with a Sithe and Cradle, as soon as it is got dry enough to be served in this manner.

In the fourth place, I shall examine what they call Breaking or Hoeing of Corn: This most ingenious and most profitable Work is partly owing to their Inventions; for I cannot say it is all; because the late Mr. *Jethro Tull*, that learned and experienced Practitioner in the Art of the Drill-Husbandry, was the Founder of this Contrivance, when he published the Use of his Hoe-plough; which would well answer the End it was made for, provided it was work'd in a very fine Tilth-earth, by a skilful, careful Plowman; but if it was work'd in a rough Earth, it would be apt to lay some of it so near the Stalks of the tender Plants, as to bruise and damage them, &c. Upon which Consideration some Persons (I think it was in this Country) studied the making of two or three Sorts of different Horse-hoeing Instruments, which they called Horse-breaks, because they were drawn by a Horse or two, that served to hoe the interval Earth between Rows, or Drills of Peas, and Horse-beans, &c. to their great Satisfaction and Profit; because they loosened or broke the Ground, clear'd it of Weeds, and laid the Earth on the Roots of the Peas or Beans, in a most regular and admirable manner; whereby, with only two such Operations in one Season, they will break their Peas and Beans (as they call it) to their great Advantage: And, what is very ingenious in these Inventors or Improvers, they have
made

made three Sorts of these Breaks, or Horse-hoes, each one to be work'd according to the Nature of the Soil, and the Time of breaking; and this, one of them will do exceeding well, and discharge a great deal of Work of Hoeing in one Day, by taking the Drill-plough from off its two-wheel Carriage, and fixing this Horse-break to it in its room, which they will do very dextrously in a Quarter of an Hour: So that this same two-wheel Carriage serves two Uses, one to draw and work the Drill-plough, and at another time to draw and draw and work this Horse-break: And they will so work it in a light Earth, with only one or two Horses at most, as to break or hoe three Acres of Peas in one Day, in such Perfection, that the Ground will lie in a most exquisite clean Condition, as I have been an Eye-witness of, without suffering so much as a Weed to be seen in the Month of *May*, when Weeds are then most predominant: And this they do every Year so excellently well, that no *Chilturne* Farmer, who does not horse-break their Peas and Beans, can get Crops of these Grains so cheap, so early, and in so plentiful a Manner, as these do. But the Horse-break extends its great Usefulness into several other Branches of profitable Husbandry, besides breaking of interval Earth, and hoeing it up for the Peas, or Beans, whereby it brings them under a forward Ripeness, and a most plentiful Bearing; for, by so doing, the Farmer enjoys an Opportunity of getting this Pea or Bean-crop off so soon, that a Crop of Turneps or Rapes may be immediately sown on only one plowing up of the same Ground; and, when these are eaten off, a Crop of Wheat or Barley may be set on, and made to succeed the Turnep or Rape-crop; which I do aver, for Truth, to be one of the greatest Improvements in the Art of Agriculture. And for these Reasons it is, that all Gentlemen and Corn farmers, that hold and oc-

cupy arable Lands, which are of a proper Nature, and lie convenient to be hoed by an Horse-break, should with all Expedition be provided with two Sorts of them at least, and which I am ready to furnish to any Person, on a proper Order, as well as the three-wheel Drill-plough. But if their Ground is not proper for the Drill-plough, it may be for the Use of an Horse-break; and when it is so, this Horse-break, where any Sort of two-wheel Plough is in common Use, may be fastened to the Carriage of it, and worked in the same manner, as if was fastened to the Carriage of a Drill-plough: And this Horse-break Tenants in particular are under an Obligation of having, because while those Farmers, who imploy one or more of these Horse-breaks, get full Crops of Peas or Beans, they that keep none, very likely, nay, it is more than probable, will, in some unfortunate Seasons, lose great Part of their Crops: And then where is their Meat to feed their Horses, Cows, Sheep, Hogs, and Poultry, the whole Year? And above all, how must the Money be raised to pay our Landlord his Rent, and maintain a Family? And now, as I am here writing to ingenious Gentlemen and Farmers, that understand the practical Part of Husbandry, as well as to those who are ignorant of it, I would ask the former, if they have not seen Crops of Peas, so damaged by the Slug and Fly, that half or more of them have been lost in some unkind Seasons: I mean those Crops, whose Seed were sown, and grow in the promiscuous Random-way; and also whether they have not known Crops of Field-peas, in some dry Summers, so dried, that they have missed corning, been blighted and spoiled. The same of Horse-bean Crops, that in dry Seasons have been so stunted in their Growth, as to yield hardly half the Quantity of a full Crop; or that they have been

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otherwise

otherwise check'd in their Growth, by the black Dolphin Fly; or crippled in their Growth, by the Multiplicity of the Curlock, and Thistle-weeds. Now, some or all of these Misfortunes, I maintain for Truth, may be prevented by the Service that a right Sort of Horse-break Instrument will do, if employed by a skilful, careful Hand, at a right Time of Year; which I propose to make appear, by the following Reasons: First, As a Horse-break must be drawn twice at least through the Intervals of drilled Peas, or Beans, in a different Shape each time, it will loosen the Surface of the Earth to such a proper Depth, as to displace or kill many Slugs and Worms, whose Residence in *April* and *May* is in the uppermost Part of it, as lying here in the most convenient and proper manner for their readier advancing to, and retreating from their tender, young, sweet, green Food. Secondly, As the Slug does his Mischief in the Night, the Fly does his in the Day-time; and at Night they retire to Rest near the Roots of the Peas, and on their contiguous Ground: Then, when a Horse-break is work'd very early in a Morning, it may prove the Destruction of many of those Insects, or oblige them to quit their Habitations, for removing to retired Places, where they may carry on their Rapine with less Disturbance. Thirdly, As to the destroying of the Dolphin Fly from off the Bean-stalks; this Insect is much very exposed to it, by the Beans being sown in Drills, at eighteen, twenty, or twenty-four Inches Distance; because as such an Interval of Ground gives a Person room to walk between the Rows, he may with a short Sithe mow, or cut off with a Knife, the Heads or Tops of the Bean stalks, and thus save the Destruction of whole Crops; for these Insects always begin to multiply at top of the Bean-stalk; and, if once thrown down, they never rise again. Or if a Parcel of

Turkeys be put to walk in the Interspaces between the Drills, or Rows of Beans, their tall Heads may reach the Flies, or black Bugs, as they hang on the Stalks, and peck them off, to the Deliverance of the Crop. I should in the fourth and next Place, examine and write on the *Kentish* way of binding of Barley, Oats, Peas, and Beans, which most Part of the Farmers in this County every Year do; but as I have said somewhat of this already, I shall write the less here.

In the fifth Place, I shall examine the Methods they take to bind their Barley, Oats, Peas, and Beans. They bind all these that grow in the more dry Grounds of this County, by having the Barley, the Oats, and the Beans, first, as I said, raked by one Man into little Parcels, and bound up in Sheaves by another Man, that directly follows him: But for their Peas, which they cut up by the Help of two-hand Instruments, called Hook-and-Hinks; they lay them in regular Rows, and bind them all up in Bundles, made with Bands of the same, in such a Quantity, that every Bundle is easily pitched up at a Fork's End into a Waggon. However, I can't say, that this is an universal Practice throughout their County, because in their marshy Grounds they take another Method with their Barley and Horse beans: The Barley in this rich Soil, commonly grows so rank, that they are forced to feed it down; but take care not to let their Cattle stay too long in it: Yet, notwithstanding this great Check they give it, the Barley, by Harvest, is so large and thick a Crop, as obliges them to reap and bind it in Sheaves, or Bundles; for it is too big for Mowing. So their Horse-bean-crop is likewise, for the general Part, so bulky, that they can neither mow nor reap them, but pull them up with their Hands.

C H A P. VIII.

How a Farmer got nine Quarters of Barley from off one Acre of Ground ; in all, one hundred and eight Quarters, that grew in one Crop, in a twelve-acre inclosed Field.

THIS was done in the Parish of *Studham*, that lies part in *Bedfordshire* and part in *Hertfordshire*, chiefly by good Plowing, Dressing, a large Crop of Turneps, and a kind Season of Weather. The Soil of this Field was a gravelly Loam, that was extraordinary well dressed with a Flock of Wether-sheep, to the Number of about three hundred ; and, when it had been well folded, it was sown with Turnep-seed, that produced a prodigious large Crop, which being fed good Part of the Winter with fatting Sheep, they dressed it a second time with their Dung and Urine, and thereby got the Ground into extraordinary good Heart ; insomuch that with only one Plowing of it in *March*, and harrowing three Bushels and an half of Barley-seed on an Acre, he got nine Quarters of Barley from off every Acre throughout the Field, and the Straw was so stiff and strong, that at Harvest it cut like Fern. This Account I had from one of this Farmer's Threshers, who protested to me, that he and another threshed out twenty Bushels of this Barley in one Day ; and he said, that he was sure, if he strove hard, he could thresh twenty Bushels of it out in one Day himself, it yielded so well.

An Account of two great Crops of Barley, that were got in very dry Years.—— A very antient Man, living in our Parish of *Little-Gaddesden*, told me, that in the Year 1682. there was no Rain till *Midsummer-Day*, which caused the Barley-seed to lie in the Earth till that time, almost as dry as when it was sown ; but a great and violent Rain, falling,

falling, fetch'd it up, and there was a good Crop at Harvest. And in 1744. it happened to be somewhat the same with Barley and Pea-crops; for both these Sort of Crops were thought by many Farmers to be lost by the long Duration of dry Weather: And, yet when great Rains fell in *June*, they brought on prodigious large Crops. But then the Barley that these two Years produced, were of several Ripenesses at Harvest; because that Seed which lay lowest in the Earth came up first; that which lay next highest succeeded; and that which lay uppermost was greenish; so that there was abundance of bad Malt made, and as bad Drink brewed: For without good Malt I defy the greatest Artist to make good Drink: And how much this Article concerns the Health of human Bodies, I leave at present my Readers to judge; for I intend in some of my Works to be very copious in writing on this most important Subject.

C H A P. IX.

The Case of a Person, who by living some Years a Servant Ploughman with a great Farmer, in the Parish of P—f—e, in Buckinghamshire, was reputed to have saved two or three hundred Pounds when he quitted his Service, and took a Farm in the Parish of S—b—y, in Bedfordshire, where he lost his first Crop of Barley, and another of Beans, merely by his ignorant, obstinate Mismanagement.

I Cannot on this Account forbear repeating that elegant Phrase, *Happy is he, who by other Mens Harms learns to beware.* A Phrase that ought to be regarded by all Men, particularly by the Farmer, because there is no cheaper way of being informed of wrong Management, than by another Case, who has committed an Error to his great Loss; and because an Error in this Science of Agriculture may be

be the Ruin of a whole Family ; for if his Wheat-crop, or his Barley-crop, or his Pea or Bean-crop, is spoiled by his Mistake ; if he is a poor Man, he may never be able to recover it : And, if I may be allowed to give my Sentiment on this Matter, I am of Opinion, Thousands of Farmers have broke, for want of being made sensible they proceeded in a wrong Way ; and by this very means, Landlords, Parishes, and the Nation in general, have suffered some Loss. Hence it is, I am led to observe, that Books written on Husbandry have of late (by those who judge before they read) been treated as Trash, because they expect (if they bought them) to see only a revived Discourse of antient Writers, calculated for different Climates, or Probabilities written for Facts. But neither of these Cases are mine ; for I am not necessitated to recur to these Shifts for Assistance, since I have my own Experience, and that of many Gentlemen and Farmers, who live in divers Parts of *England*, &c. to support me with the Knowledge of Facts that I communicate to the Public by these my Monthly Books : One of which, that I am here writing of, was acted within twelve Miles of *Gaddefden*, by one who had all his Life-time lived in or near the *Chilturne* Country of *Hertfordshire* ; and last of all in a Farm that was rented at above three hundred Pounds a Year, where the Soil was a Chalk, a Gravel, and a dry Loam, or a Mixture of all, which had the usual yearly Dressing bestowed on some Parts of it of woollen Rags, that were chopt small, sown, and plowed in, both for Wheat and Barley crops, as the best Sort of all other Dressings ; because Rags always agree with this dry Land to Admiration ; for, if but one great Shower of Rain fall on them, they will lodge and retain a considerable deal of its Water ; whereby they communicate to the Roots of the Corn, and the Earth
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about them, a moist Heat, and a most fertile Assistance; infomuch that no Dressing or Manure, that is now in Practice, comes up to that of these Rags, when sown and plowed into these dry Soils. Now it happened, that this Ploughman's Servant, having saved a round Sum of Money by his Wages and Perquisites (for as he was Head-Man, he always had the Care of two Waggon-loads of Wheat that were every Week drawn to one Market, and likewise two Waggon-loads of Barley every Week to another Market, which gave him an Opportunity of earning some Pence almost every Journey for Carriage of Things, in his Return home), thought he had got Money enough to set up Farming himself; and accordingly he took a Farm in another County, that was situated about eight Miles Distance from where he lived, where the Soil was quite of a different Nature to that he came from, being a black-and-bluish clayey Loam, that lies in half-acre Lands, or what we call in Ridge and Thorough, never to be plowed across, of the Breadth of four Swarths or Mowings of a Sithe, each half Acre: And as he entred on the fallow Ground at *Lady Day*, to commence on Rent at *Michaelmas* following, and was obliged to sow some of his Land with Barley, as well as Wheat, he began to plow it as a Fallow, or a first Plowing in *April*. In *June* he gave it a first Stirree, and about *Michaelmas*, when he was to plow and lay up that Part of the Land he design'd for Barley, he first sowed over it chopt woollen Rags; and then directly plowed them in to lie, and rot, and mix with the Earth against *March*, when he plowed this ragged Ground a fourth time, and then sowed it with Barley seed that he harrowed in. Now the Consequence of this our new Farmer's Proceeding was, that as the woollen Rags were thus soon in a clayey loamy Ground, that lay very low and wet,

wet, their spongy Substances soon lodg'd, and retain'd the rainy Waters to that Degree, as chill'd the Roots of the Barley, during the time of the cold Weather, that quickly happened after the Sowing of the Barley, made the Blades of it look almost of the Colour of a Fox's Tail, and, in short, kill'd most of the Crop; insomuch that at Harvest this mistaken Farmer had but little more than his Seed again. But this is not all the Mischief that this ignorant, obstinate Farmer did to himself, by the wrong Application of woollen Rags for a Dressing, or Manure, to his Barley-crop; for this his Mistake did not end here; as I shall shew, by

A second Case of the same Farmer's, shewing how he lost his Bean-crop in 1743. by means of those woollen Rags he plowed into his Ground, as a Dressing for his Barley crop. — In the Month of February 1743. it was the Season for this Farmer to sow his Stubble-grounds, that had Wheat and Barley growing on them last Year, with *Lent* Grain this: And as they always here sow Horse-beans after their white Corn, this Farmer sowed all that Ground, which was dressed with Rags, and had Barley on it the Year before, with Beans. Now it happened, that this Summer, 1743. proved to be a very dry one; which is the most disagreeable Weather of all others to a Bean crop; insomuch that in such Years the Beans are stunted in their Growth, and the Curlock, the Thistle-weeds, &c. at the same time flourish in theirs, because these Weeds naturally grow from deeper Roots than the new-sown Horse beans, which give them a Power to run up sooner, and more luxuriant, than the Beans; as is evident, when in some dry Seasons, and in some Fields, there is hardly any thing else to be seen at a Distance, than the yellow-headed Curlock weed; which is such a Misfortune to many *Vale* Farmers, more than others (because they cannot

cannot plow their Ground across), that, without any artificial Assistance to this Misfortune, their Crops of Horse-beans suffer prodigiously, purely by the Inclemency of dry Seasons. But here I am to shew, that, besides the Damage that dry Weather alone did to this Farmer's Crops of Beans, the woollen Rags, that he the last Year sowed for a Dressing to nourish his Barley-crops, but spoil'd them, did likewise very much add to the Mischief of losing the greatest Part of his Bean-crops; because as all woollen Substances are of a dry hot Nature in themselves, these same Rags, that were not all rotted and consumed, did in part remain; and so heated the Earth, and the Roots of the Beans, that, together with the dry Weather, their Crops were spoiled to that Degree, that this Farmer had but little more at Harvest, than his Seed again: Which gives me an Opportunity to make Remarks on these two fatal Cases, that I may so explain this Piece of wrong Husbandry, as to make it become the better Warning to others, and prevent their falling into the like prejudicial Mistakes.

The Author's critical Remarks on the Loss of this Farmer's Crops of Barley and Beans.—— One would think, that a Ploughman, who was bred from his Cradle to Field-work, and had cultivated Thousands of Acres of Land, might have made a better Judgment than to sow woollen Rags as a Dressing, or Manure, to wet, clayey, loamy Soils, that by their low Situations, are so exposed to the Damage of Inundations of Waters, that they are forced to lay up such Earth in an high ridged Posture, to keep it dry as well they can. And yet for all this, where there are not sharp Descents, for carrying off such Waters in due time, the Grain that grows on the Outsides of each half-acre Ridge-land, is oftentimes drowned and spoiled: When then such a stiff wettish Ground is to

be dressed, the next Thing to be thought on, is, What Sort of Dressing shall I manure this Land with? If he has no Choice, indeed, there is no room for the Question; but where there is, a Manure ought to be adapted to the Nature of the Ground: That which will assist a Gravel, a Chalk, a Sand, or a dry Loam, will spoil a wettish loamy Clay, as the Case stood with this Farmer, who might easily have believed, that wetted woolen Rags would chill the Roots of the Corn in a cold Season in such cold wettish Earth, because wettish Clay-land holds Water for some time like a Pewter-bason; and lies, stagnates, and sends up those moist, raw, cold Effluvia, and Dampness, that chill and cripple the Roots of all Corn that grows near and upon it: On the contrary, when such woolen Rags lie in a chalky, a sandy, a gravelly, or a dry, loamy, loose Soil, after they are thoroughly wetted by descending Showers of Rain, the Waters pass below them, and are drank up by the wide Pores of such spongy hollow Earths, and lost; so that when such Showers are over, there seldom remains more of them, than what is perfectly necessary to nourish the Plants that grow on them; which makes good the familiar Proverb, *One Man's Meat is another Man's Poison*: For these Sorts of dry Earth will most of them bear a Shower of Rain every Day, and not be the worse, but much the better, for them. Hence it is, that in very dry hot Summers, when Crops of Grain are dried, or, as it were, burnt up in Gravels, Chalks, Sands, and dry Loams, then the fertile Vale-lands become most profitable, and return the biggest of Crops: For which Reason no Manure is a more natural Dressing for such low wet Lands, than rotten Dung, mix'd with the Mud of Ditches or Ponds, and the Dung of Sheep, Pigeons, and Hens, Soot, and the like. And, what was also somewhat surprising,

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this

this Farmer, as one of his Neighbours told me, would not hearken to their Advice, when they told him, that Rags were unfit for their Land, and would spoil his Crops, instead of doing them Good; but he refused hearkening to any Persuasions, and went on in his own destructive Way. I have more of these Sort of Cases to publish hereafter, that are true Matters of Fact, as well as this, and which, as they give the truest Accounts of wrong Farming, they must be very serviceable to a young Gentleman to study, who is inclined to take one of his own Farms into his Hands, for busying himself in the most healthful and delightful Occupation of Husbandry; as also to those Farmers, who remove out of one Soil into another of a contrary Nature, and by these means have been ruined; because their old Customs in a former Farm have prevailed into Use in another, according to the aforesaid Case, and led them into most erroneous and destructive Practices. And, to prove that I do not vamp up and forge these Cases, merely to fill my Books with chimerical and invented Facts, if any Gentleman pleases to be inform'd of the Truth of this (or any other that is in my Power), if he will come to my House, I will give him full Satisfaction; for I have seen this very Man I here write of, as he lived a Servant, some Years, within about three Miles of me.

C H A P. X.

A new and most excellent way of preserving Wheat sound, sweet, and free of all Damage from any manner of Vermin whatsoever, as practised by a certain Nobleman.

IN my Monthly Book for June, I have given some Account of preserving Wheat

in Granaries, Sacks, &c. published several Cases relating to the same, and promised to write more on this important Affair; which accordingly I have done in *July*: And here I shall resume the same Subject, and intend to enlarge further on the same in *September* and *October*. What I have to write here, is a Method that was practised by an *English* Nobleman, to his great Profit, who carried on a large Practice of Husbandry for many Years, by occupying that Part of his Estate which lay next to his Seat. And it was this same Nobleman that took such Delight in the farming Business, that it has been observed by his Neighbours, he placed the chiefest of that Pleasure he took abroad but in two Things; one of which was this of husbanding his several inclosed fine Fields, consisting of Meadow, Arable, and Wood-grounds, that gave him an Opportunity of enjoying the most healthful Exercise in the World, both in Summer and in Winter, by riding about his Grounds; and sometimes, when the Weather favoured, he would walk, and sometimes give himself a little Fatigue in burning Clay, in weeding with a Paddle, &c. which, with the most temperate Life he led (one of the greatest Virtues of a rich Man) contributed so much to his Health, that he possess'd as good a State of it, as any Man whatsoever, and that at an advanced Age: But to my Subject. It was against the Month of *August*, that this Gentleman took care to have a large Quantity of Wheat ready thresh'd out by him, in order to lay it up in this Month, for preserving it some Years before he sold it, if it tallied with his Interest so to do; for he had a bulky Estate, and was no way necessitated to sell his Corn presently, but to let it lie for his taking Advantage of a rising Market, which, in less than seven Years, seldom fails a Hoarder's Expectation. Now it was the Custom of this Nobleman

Nobleman to have all his Wheat-sheaves, that his Barns could not hold, set abroad on Stages of Wood, each supported by eight capped Stones, or Posts, or Pillars of Wood, that stood erect, and kept the low-st Part of his Cock of Wheat-sheaves about two Feet above the common Level of the Ground, for defending them against the Rapine of Rats and Mice. Yet this is not an infallible Way to keep Wheat-sheaves clear of these Vermin; because if there be a Pole, Log, or Stick, Chair, Bench, or Stool, that accidentally happens to stand against any Part of the Outside of such a Cock, or Stack of Wheat-sheaves, it may serve as a Bridge or Ladder, for Rats or Mice to get to, and amongst them, where when they have got a full and undisturbed Possession, they will in course breed, and increase to that Degree, if they have Time enough, as to devour Part or all of a Cock or Stack of Wheat: Wherefore it was the Contrivance of some very ingenious Person, to keep and preserve thresh'd-out Wheat in Cocks, or Stacks of Wheat-sheaves, in the sweetest manner possible, clear of all Danger of being damaged by any kind of Vermin whatsoever, thus: When this Nobleman's Threshers had sieved and screened the Wheat so well, as to clear it of all Chaff and Dust, they would then make the Chaff pass through a Sieve, in order to let out of it all the Dust and small Chaff they could, and reserve only the largest and biggest Head-chaff to mix with the cleaned, screened Wheat: When they had proceeded thus far, they mixed half a single Bushel of this large clean Chaff, with five Bushels of clean dry Wheat, and put it into a Hair-sack, which they tied up; and, when they had tied up thirteen such Hair-sacks of Wheat and Chaff, they were made ready to be laid among one Cock of Wheat-sheaves; and, being thus got all ready, they were carried to the
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wooden Stage, or Hovel, and placed on and about the Middle of it, in an upright Posture, so that they might be regularly encompassed by those Sheaves of Wheat, which were to be laid about and on them: This being done, Cart-loads of Wheat-sheaves were brought out of the Field, and ranged on this Hovel, all about the Sacks, and upon them, till the Cock was completely finished, and all the Sacks completely covered from all manner of Weather, here to lie Years together, if the Owner thinks fit, in a sound, pure, sweet, and safe Condition; for if Rats and Mice should happen to get accidentally into such a Wheat-cock, they would not be the nearer feeding upon this threshed cleaned Wheat in the Sacks; because if they attempted it, the Hair would presently cut their Mouths, and make them leave off at once; nor did I ever know any such Misfortune on this Account to any laid-up Wheat, but that it remained safe to the last, in the best manner that Wheat can be laid up in; because, in the first place, the naked Wheat, by being mixed with some of the best of the Chaff, keeps its original, field, bright Colour, even to the last; which is one of the principal Virtues that recommends it to a Buyer, for his giving the greatest Market-price for it; for by its bright fine Colour, the Mealmen partly make a Judgment of the Condition such Wheat was got into the Barn or Cock; and believe it had its true Cure in the Field, before it was housed or cock'd. Secondly, That such Wheat will grind well, by easily parting with its thin Skin, or Bran, and yielding a great deal of fine white mellow sweet Flour. And lastly, That such true cured Wheat will keep in Corn or Meal, much longer, purer, and sweeter, than a worser Sort, that has a dingy, dusky Colour, and that had received a Damage by Rains, or Weeds,
after

afte it had been reaped: Of fuch good Wheat this Nobleman generally laid up Quantities among his Cocks, or Stacks of Sheaves, in one Shape or other, every Year; as being encouraged thereunto from the profitable Returns fuch well-managed, old Wheat made; for he held fo much plowed Lands in his Hands, as produced many Quarters of this golden Grain in a Year, that he laid on feveral of thefe wooden Stages, or Hovels, in Sheaves, and, amongst them, fuch cleaned old Wheat; fo that he every Year could furnifh a Market with confiderable Quantities of well-cured Grain, that never wants a Buyer at a Market-price.

How this Nobleman received a Damage by Vermin that got into one of his Hovels, or Cocks of Wheat-sheaves. — You muft know, that this Nobleman, whose good Management in preferving naked Wheat in Hair-facks I have been juft writing on, had fome Frames or Hovels of Wood, fet on Posts, or Pillars, about two Feet in Length, as well as fome others on Stones. The Stone Pillars indeed wanted no Affiftance, becaufe they, and their broad Caps, or Coverings of Stone, rendered the Hovel inacceffible, by any direct Climbing of Rats or Mice; and for fecuring the wooden Posts, or Pillars, to hinder the Afcent or Climbing of any Vermin, he had a fquare Piece of Tin, about eight Inches broad, and twenty long, nailed round the Middle of each Post, or Pillar; which would infallibly have answered his defired End, as long as it remained on. But fo it was, that fome Villains, feeing thefe eight feveral Pieces of long, fquare Tin, nailed on the Pillars of each Wheat-hovel, went in the Night-time, and forced them off, for the fake of felling them perhaps for a Penny apiece; though the Damage to the Owner might be more than many Pence, or Shillings, for aught I know; for, by this Piece of Thievery, the Mice had

had an Opportunity to get up into the Wheat-cock, make a Lodgment amongst the Sheaves, and eat their Ears with Greediness ; but could not hurt the Wheat in the Hair-sacks. However, to discover if the Mice had got in amongst the Sheaves, they put in some ashen green Sticks, which by next Morning gave them a Proof, by their debarking the Rinds of them, they were in Possession of the Hovel ; and then this Nobleman thought it high time to uncock all the Wheat again, both in Sheaves, and in Sacks, and bring all into the Barn ; which he did, till he could furnish himself with a sufficient Number of Pillars, and Caps of Stone, to place in the room of those of Wood ; and, when this was done, he remounted the Hair-sacks of naked Wheat as before, and replaced as many Sheaves of Wheat about and over them, as would keep them from all Damage of Weather. Now I don't suppose, that this Piece of Night-roguery was done by any of our Country-people, because as they are not Travellers, they cannot, without manifest Danger of being suspected, and taken up, offer to sell such Pieces of Tin at any Shop ; for by their torn Make and Shape, they would give a plain Intimation, they were stolen off Posts ; and therefore I think, there is just Reason to believe it was done by travelling Vagrants ; and, of all Vagrants, there are none more likely to commit this poor Piece of Robbery, than those called Gypsies ; for these are the subtlest, bare-fac'd Sort of Thieves, that travel our Country, as having the greatest Opportunity of all others to commit Night-robberies ; because these Gypsies lie in Fields and Woods, most Part of the Year, for securing and safer screening their dark Practices from the Knowledge of People, who by this means are debarr'd from being Witnesses of their Thefts.

C H A P. XI.

Of the Bite of S E R P E N T S.

Of the Adder, and its numerous Breed in Hertfordshire.

AS I live in a County, the most noted of all others in *England*, for the numerous Breed of Adders, Vipers, Slow-worms, and Land-efts, and in a Part of the same County, where (I presume I may assert it for Truth) they are in such Abundance, that even our Highways sometimes are not free of them ; I must observe, that our inclosed Fields, Woods, Hedges, and Commons, are so much furnished with them, as to invite some of those Adder-catchers, who do it for their Bread, to come frequently for taking them here, to sell them to Persons of Quality, Apothecaries, and others, for the several Virtues that are to be extracted from them. And it has been my own Case a few Years ago, to have so many Adders in my Wood and Fields, that it was dangerous for any Person to walk in some Parts of them in the Months of *May, June, July,* and *August*, without first looking well on the Ground, before they trod on it ; but as I and others have killed many of them, there remain, I believe, few or none at this time in them. It was some Years ago that a Nobleman in this County kept a Parcel of Peacocks in his wooded Park, chiefly to destroy them that were here in such great Numbers, that it was very dangerous walking for Man, or Beast, amongst the Shrubs, Brakes, and high Grass, that this Park abounds with ; and I do suppose, that these large devouring Fowls would have been kept on till this time, had they not done a great deal of Mischief, as well as a great deal of Good ; for so it happened, that as the Walls that encompass'd

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this Nobleman's Gardens, were of an antient low Structure, the Peacocks made frequent Flights over them, and fed on the green Vegetables, that were here always, in some kind or other, ready to be eaten by them, as their dainty pleasant Food; especially in Winter-time, when hardly any other could be come at: And for this Reason it was, that he had them kill'd, that used to kill many of these Adders, both old and young, as well as Slow-worms, &c. Now, of all Seasons in the Year, there is none so dangerous for a Person to be bit in by Vipers, Adders, or Slow-worms, as in the Months of *July*, or *August*, because in *July* Adders bring forth their Young, and then in *August* are so tenderly careful of their Safety, that the old ones (as we call it in *Hertfordshire*) will fly at any Person that approaches too near them; that is, the old ones, in Defence of their Young and themselves, will attack a Man at this time, when, before they have young ones, they would retreat and get from him in Fear, with great Precipitation. Since therefore the Months of *July* and *August* are the most dangerous Months in the whole Year for being bit by Vipers, Adders, and Slow-worms, I have thought it necessary in this Month, to insert the following Accounts of the Bites of Adders, and the cheapest, surest, and readiest Antidote that ever was invented by Man for curing the same; which is

A Narrative of the Experiments made June 1. 1734. before several Members of the Royal Society, on a Man, who suffered himself to be bit by a Viper, or common Adder, and other Animals likewise bitten by the same, and other Vipers. Drawn up by Cromwel Mortimer, M.D. Secr. R. S. — — William Oliver, and his Wife, from Bath, who follow the Business of catching and selling Vipers, offered themselves to be bit by any Viper that should be procured, trusting to the Virtue of a
Remedy

Remedy they had lighted on by Chance, in trying Variety of Things when the Woman was once accidentally bitten; and the usual known Medicines, even the Oil of Vipers, had no Effect in asswaging her Pains; especially of her Breast, of the same Side as the Hand in which she had received the Wound. This Remedy, which is only common Oil of Olives, and, from its Use with Sallad, is vulgarly called by the Name of Sallad-oil, recommends itself not only for its Efficacy, but likewise on account of its being ready to come at, when Accidents happen, there being no Town, or even Gentleman's House in the Country, where Sallad-oil is not at hand; whereas the Oil of Vipers is never to be had but at Apothecaries, and not one in an hundred of them keep it by them.

On the First of *June* 1734. in the Presence of a great Number of Persons, the said *William Oliver* was bit by an old black Viper, or Adder, brought by one of the Company, upon the Wrist and Joint of the Thumb of the Right-hand, so that Drops of Blood came off the Wounds: He said, that he immediately felt a violent Pain and Shooting from the Wounds, both to the Top of his Thumb, and up his Arm, even before the Viper was loosened from his Hand: Soon after he felt a Pain, resembling that of Burning, trickle up his Arm; in a few Minutes his Eyes began to look red and fiery, and to water much; in less than half an Hour, he perceived the Venom seize his Heart with a pricking Pain, which was attended with Faintness and Shortness of Breath; whereupon he fell into violent cold Sweats: In a few Minutes after this his Belly began to swell, with great Gripings, and Pains in his Back, which were attended by violent Vomitings and Purgings. He told me, that, during the Violence of these Symptoms, his Sight was gone twice, for several Minutes at a time, but that he could hear all the while.

while: He said, That in his former Experiments, he never deferred making use of his Remedy longer, than when he perceived the Effects of the Venom reaching his Heart; but this time, being willing to satisfy the Company throroughly, and trusting to the speedy Effects of the Oil, which had never failed him, when used in time, he forbore to apply to any thing, till he found himself exceeding ill, and quite giddy.

About an Hour and a Quarter after the first of his being bit, a Chafing-dish of glowing Charcoal was brought in; and his Arm, the Cloaths being stripp'd off of it, was held over it as near as he could bear it, while his Wife rubbed in, with her Hand, the Sallad-oil (which I had bought by the Name of Lucca-oil); turning his Arm continually round, as if she would have roasted it over the Coals: He said, That the Pain soon abated, but the Swelling did not diminish much; most violent Vomitings and Purgings soon ensued; and his Pulse became so low, and so often interrupted, that it was thought proper, by the Physicians present, to give him the following Cordial-draughts, at about a Quarter of an Hour's Distance between each:

1. Take of Water, Milk, and Peony, three Ounces each; Spirit of Lavender, one Drachm: Mix enough for two Draughts.

2. Take of Sir *Walter Raleigh's* Confection, half a Drachm; Treacle-water, half an Ounce; Spirit of Hartshorn, ten Drops: Mix them, and make a Draught.

3. Take of Sir *Walter Raleigh's* Confection, Treacle of Andromachus, each half a Drachm; Salt of Hartshorn, five Grains; Treacle-water, two Ounces, at two Draughts.

He said, he was not sensible of any great Relief from these Cordials; but that a Glass or two of Olive-oil, drank down, seemed to give him some Ease.

Continuing

Continuing in this dangerous Condition, he was put to Bed as soon as one could be got ready for him; where his Arm was again bathed with his Remedy, over a Pan of Charcoal set by the Bed-side; but continuing to complain much of his Back and Belly, I advised his Wife to rub them likewise with Sallad-oil, heated in a Ladle over the Charcoal; which she did accordingly: Whereupon he declared, he found immediate Ease, as though by some Charm; and he had not above two or three Reachings to vomit and Stools afterwards, but made Water plentifully, which was not discolour'd: Then he soon fell into a sound Sleep; only was often interrupted by Persons coming to see and inquire after him, till near Twelve o'Clock, from which time he slept continually till Five or Six next Morning, when he awaked, and found himself very well; but in the Afternoon, on drinking some strong Beer, so as to be almost fuddled, the Swelling return'd with much Pain, and cold Sweats; which abated soon on bathing the Arm as before, and wrapping it up in brown Paper soak'd in Oil.

Two Pigeons were bit by the same Viper, immediately after the Man; they soon sicken'd and seemed giddy: Nothing being applied, the one died in about an Hour's time, the other half an Hour after. The Flesh of both was turned quite black, as if mortified: The Blood was coagulated, and looked black.

On the Third of *June* the Man's Arm remain'd swell'd, look'd red, marbled with Spots of Yellow, but felt soft; and he had the perfect Use of it, and even of his Fingers, no Pain or Stiffness being left. He then caused a small Spaniel-dog to be bit on the Nose by a fresh Viper: Some Oil was immediately applied hot, and rubb'd well in, till all the Hair of the Nose was thoroughly wet: The Dog did not seem very uneasy, his Nose only swell'd
a little;

a little; he eat soon after; his Nose was bathed once more that Evening; he was found very well next Morning, but his Nose was bathed again to make sure of his Cure; he remained perfectly well, without any Symptoms ensuing, and was alive and well a Year after. Another Pigeon was likewise bit under the Wing, at the same time as the Dog, but by a fresh Viper: The Oil was immediately applied hot, and rubbed well in, and the Feathers of the Wing were thoroughly wetted with it: This Bird did not seem at all disordered with the Venom, but eat soon after; and was found well the next Morning, without any remarkable Inflammation, or Swelling about the Part. The hot Oil was rubbed in again for two or three Days twice a Day, and the Bird continued well; so that the Viper-catchers carried it with them out of Town in Triumph, having never before experienced the Efficacy of their Remedy on so small an Animal; which, as it receives the same Quantity of Venom by a Bite, as a larger one doth, is more liable to die under it; and they kept it alive for above three Months, when they killed and eat it. They said, That they had experienced their Remedy to take Effect on Cows, Horses, and Dogs, ten Hours after being bit; but that for themselves, who are frequently bit in the Fields, as they catch the Vipers, they always carry a Phial of Sallad-oil along with them: That as soon as they perceive themselves wounded, they, without any Loss of Time, bathe the Parts with it; and if it be the Heel, they wet the Stocking thoroughly with it: If the Finger, which happens ofteneft, they pour some of it into that Finger of their Glove, which they immediately put on again; and thus never feel any further Inconvenience from the Accident, not even so much as from the Sting of a common Bee: Perhaps it may be found of Use for the Bite of Rattle-snakes, and other venomous

venomous Animals; especially if we consider, that in the Fields a Man seldom or never receives more than one Bite at a time, which doth not infect him with so much Venom, as was instill'd into the Man's Blood, when in these voluntary Experiments he suffered himself to be bitten twice together, and had likewise been bitten three times but about a Week or ten Days before; some Remains of which Venom, it is highly reasonable to imagine, might still infect his Blood, at the time he repeated the Experiments, so as to make a fresh Quantity of the Venom operate with greater Violence upon his Body, than if he had quite a fresh Man, never infected with the like Poison before; or at least at so great an Interval of Time, that his Blood might have been intirely free from all Remains of such an acrid Infection. From these Experiments, is it not reasonable to imagine, that the Oil by itself may be as efficacious against the Sting of a Scorpion, as if Scorpions were infused in it?

I should not have forborne so long, adds the Doctor, imparting the Knowlege of so useful a Remedy to the Public, had not the poor People enjoined every one present at the Experiments, not to divulge what their Remedy was, till they should give me Leave to make it public in these Parts, which they have now done. The Reason of their keeping it a Secret was, the Hopes of obtaining a handsome Reward from generous and charitable People; but now, having lost all Prospect of any considerable Recompence, they were unwilling, that the Means of immediate Relief, to those who should have the Misfortune of being bit by an Adder, should any longer be with-held from them; and they are desirous, that this their Remedy against the Bite of a Viper may be publickly known.

Now,

Now, to the above Account, I shall here subjoin the deplorable Case of an unfortunate Man, who was accidentally killed by the Bite of an Adder, as it was published in a News-paper; and which will plainly shew the great Service, that this poor, illiterate Viper-catcher has done his Country, in finding out and making a public Discovery of this his Oil-remedy, that infallibly, if timely applied, cures the most furious Bite of any Adder, or Viper, &c. whatsoever.

C H A P. VI.

The deplorable Case of an unfortunate Man, who was killed by the Bite of an Adder.

July 29. 1734.

THEY write from *Bristol*, last Week, a Carpenter sitting down in a Field near *Bedminster* to rest himself, a Viper rushed out of a Hedge, and bit him by the Hand: The Venom mortified all down the Side he was bit on, before any Relief could be applied by a Surgeon; and he died after four Days languishing, in a very miserable Condition: His Body was obliged to be burnt without Ceremony, the Stench was so very offensive. This fatal Bite happened in the Dog-days, when in course the old Viper had young ones, which made him fly on the Hand of the Man, in a most vehement Rage, biting deep with a very malignant Venom, that undoubtedly had the more Efficacy when the Man's Blood was perhaps in a Ferment, and at the thinnest.

The Author's Remarks on the Case of the Man's being bit and killed by a Viper. ——— Bedminster I was at in the Year 1737. and, as I remember, it seemed to me to be a very large Village, or a Town, that
stands

stands about a Mile, or a little more, distant from *Bristol*, near to which this poor Man was bit by an enraged Viper or Adder; and, as it is a Place that contains many Inhabitants, there were undoubtedly at the time, when this Accident happened, one or more Surgeons living in the same; or as the Place is so little a Way off the City of *Bristol*, one would think a timely Assistance might have been had to save the Man's Life. But by the above Account it so happened, that the Venom was very malignant, and made such quick Progress into the Mass of Blood, as rendered him in a little time past Cure; and the more, as few Surgeons and Apothecaries, I suppose, then knew how to apply a timely and effectual Remedy for a Bite of this Kind. Now *Bedminster* lies not above twelve Miles from *Bath*, which the Viper-catcher, *William Oliver*, and his Wife, came from; but as they had not made a public Discovery of their great Oil-secret, till some time after the Carpenter was bit, and died, the Surgeons and Apothecaries, living thereabouts, could have no Knowledge of this cheap, common, and grand Remedy: If they had, it is hardly to be questioned, but that the Life of this poor Tradesman would have been saved. Does not all this make it plainly appear, That God Almighty is pleased to shew his infinite Power in great Weakness, and sometime cause the most important Remedies to be found out, and discovered, by illiterate Persons, that none should so far boast of, and rely on, their great Stock of Learning, as to believe there is no other way to come at the most useful Discoveries than by the Chancel of Scholarship; since every good and perfect Gift to any is from God alone, who dispenses it to whom he pleases? And why this poor, unlearned Viper-catcher should not be rewarded, with as much Gratitude, for making this his most valuable Secret pu-

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blicly known, as a more able Person perhaps, and very probably, would have had, I know not; unless it be, that the first is not in a Capacity of making so much Interest with People of Ability as the last is. A Case that is too true, and which affects many who have industriously, and at their own Charge, found out one or more most serviceable Facts, that have done the Nation in general no little Good, and yet have been rewarded much like this Viper-catcher. But since our gracious King *George* the Second, whom I pray God to preserve in long Life and Prosperity, and his wise and liberal Parliament, have generously rewarded *Mrs. Stevens* in a most noble manner, for making publicly known her Nostrum to cure the Stone and Gravel, it is to be hoped, that Persons of Ability, from such an Example of Munificence, will more and more encourage useful Inventions, and their public Discoveries; that this our Nation, by timely and suitably rewarding the Merits of laborious and ingenious Men, may exceed all others in the Enjoyment of profitable Arts and Sciences. But, for further illustrating the great Value of this Discovery made by *William Oliver*, and his Wife, in my next Monthly Book of Husbandry for *September*, I shall give my Readers the History of a large Serpent, or Dragon, whose Body measured nine Feet in Length, and which killed a Man, a Woman, and two Dogs, in the County of *Sussex*. How much then must be the Value of such a discovered Remedy, that will in these Cases preserve a Man's Life, when no other is known to do the like? The Value of the Remedy is easily comprehended, when estimated with the Value of a Man's Life.

C H A P. XIII.

To colour Butter, and make it appear with a delicate yellow Cast.

A Fine yellow Colour, that Butter naturally acquires, when Cows are fed in Meadows where many yellow Flowers grow, certainly recommends it to a Buyer beyond a pale whiter Sort; and therefore as yellow Butter is most acceptable, it has employed the Thoughts of many to invent a way to counterfeit this natural yellow Colour of Butter, and make it look so all the Year long: For altho' Cows may feed in Summer on Grass mixt with yellow Flowers, that causes Butter to look of the same Colour; yet in Winter no Butter will look yellow, unless this Colour is added to it by some artificial Means: To do which, good Housewives take timely Care to get a large Parcel of Marigold-flowers, and put them into a glazed earthen Pot; and, when a Layer of them are placed here, they strew over them a Layer of Salt, then another Parcel of Flour and Salt, and so on till the Pot is filled: In this Condition these Flowers may be preserved, and when wanted, taken out to be used thus;—Take a Parcel of these Flowers, and put them into a wooden Bowl, where, with a round Ball of Iron, they are to be bruised as Mustard-seed is: When this is done, they put a little Water, or rather a little Skim-milk, to them; and strain and squeeze out their Juice through a Cloth into the Cream in the Churn for Butter; and into the Milk that Rennet is mixt with for Cheese: For Skim-milk, or Water, on this account, is better made use of, than new Milk or Cream; for if either of these were ground with the Flowers, it would produce an oily Substance, not so well fit for this Purpose.

The Character of a Dairy-maid. — She may be known by her red plump Arms and Hands, and clumsy Fingers; for in most great Dairies they are forced to milk their Cows abroad, great Part of the Year; I may say, almost all the Year, even in Frosts and Snows, while their Fingers are ready to freeze in the Action; and sometimes while they stand in Dirt and Water. I know a great Farmer, living at this time near *Buckingham*, who, tho' he rents a large grazing Farm, has no Barn-room; only a Place built for a Cow or two to calve in, besides a Stable for his Horses; and therefore is obliged to keep his Hay in Reeks, Stacks, or Cocks. This forces the Dairy-maid not only to milk in all Weathers, but to fetch it home from considerable Distances: And indeed it may be justly said of these, That their Work is never done; for where twenty or thirty Cows are kept, they must begin about Four o'Clock in the Summer-time to milk, and at the same Hour next Morning; and between these times they have enough to do, to scald and scour their Utensils, and make Butter and Cheese; and thus are constantly employed throughout the Year. A good Dairy-maid is a very valuable Servant; I mean, one that readily rises betimes; is diligent and skilful in making the best Butter and Cheese; is cleanly in the Performance of it, making the most of her Milk, and doing all in her Power to promote her Master's Interest: Such an one I have an Opportunity to hire beyond Thousands of others, because I live on the Edge of *Alesbury-Vale*, that abounds with the best of Dairy-maids, and likewise not far off the greatest Northern Road, through which (especially all the Spring and Summer Season) great Numbers of them come up by Waggons, and Pack-horses, to be hired into the Southern Parts of this Kingdom: Therefore if any Gentlemen, Ladies, or others, think fit to employ
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me in hiring one or more of these Dairy-maid Servants, I will do it in the best manner I can; for as I am acquainted, at several of the Inns, with the Masters that keep them, where these Dairy-maids lie on the Road, I stand some Chance of hearing their Character from the Waggoners: And by this means Persons may come by right hardy-bred North-country Wenches, that never were corrupted by a wicked Conversation in *London*, or other great Southern Town. But whoever writes to me on this Account, must give me full Power to hire one at once at my Discretion; for they won't stay else on the Road; and pay Postage of their Letters to my House, or get them frank'd: Direct to me, at *Little-Gaddesden*, near *Hemsted*, in *Hertfordshire*, if they would have them answered. And I likewise give Notice here, That if any Person thinks fit to employ me to buy a Banel, Churn, Leads, or any other new-invented Dairy Utensils, I am ready to do it, and send them to any Part of *Great-Britain*, *Ireland*, or elsewhere. But in this Case we are not confined to hire only a Dairy-maid: If any Person would have one hired for a Kitchen, or House-maid, or for Brewing, or other Household-business, here they may be furnished with a true Slave; I mean a strong hardy Girl, who, by being inur'd to work the greatest Part of her Life, will do a great deal in a Day; while some of the puny Town-bred Servants will flag, and give out, under half the Slavery that one of these will go through.

I here take the Opportunity further to observe, That most of these Northern Wenches, by living in Farm-houses, are Brewers for the Family; and, on this very account, I think Gentlemen, Ladies, and others, would very much consult their own Interest, if they hired one of these, tho' for large Wages, and be at the Expence, besides, of sending for her to the remotest Part of the East, the South,

or to the West Part of *England*. For let it be considered, what an Advantage such a one would be to so large a Family in this one respect: She would make excellent Beer and Ale, while an ignorant one would spoil the Malt and Hops; nay, I am sure there are great Numbers of Maid-servants, that are employed in this Affair, who never did brew good Drink, though they are allowed the best of Malt, Hops, and Conveniences. A Gentlewoman, whose Husband had a good Income, besides renting a Farm of Three hundred Pounds a Year in *Middlesex*, and who always kept a Cook and Chamber-maid, told me, She once had a *Yorkshire* Maid-servant, who brewed all the Drink for the Family, and did all the Kitchen-work besides; made her excellent Beer and Ale, that she never enjoyed before, nor since she left her Service; and many times since regretted the Loss of her, for this very Reason. I have only this to add on the Subject of a Servant-maid, That by a Person's hiring one of those Northern Maids, they will have the Advantage, that a certain Nobleman and his Lady set a great Value upon, who live about thirty Miles from *London*, and keep a considerable Number of Men and Maid-servants: These seldom or never hire any Maid-servant, that was bred in the neighbouring Country; but take those who come out of distant Parts; for here may be seen the *Welsh*, the *Yorkshire*, the *Shropshire*, and other Maid-servants; because, by this very means, the Master and Mistress are delivered, in a great measure, from great Evils, which too often accompany the Hiring of neighbouring Maid-servants; viz. The visiting of their Relations and Acquaintance, which has too often been the Occasion of Losses and Vexation to a Family; by their giving some of these loose Visitors an Opportunity to pilfer and waste the Goods of the Master and Mistress. I believe
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I may safely say, it has been the Occasion of many Burglaries, by thus giving thieving Relations, or Acquaintance, room to espy and make their Observations, where they may easily and safely break into an House in the Night-time, for robbing it. The many fatal Instances of this are not only too numerous to insert in this my Monthly Book, but even for a Folio Volume to contain; for this horrid Mischief has not only followed the accidental Hiring of a neighbouring Maid-servant; but it has been carried to an higher Degree of Villainy, even to a concerted Pitch of it; especially by a *London* common Thief dressing up herself like a plain Cook-maid, and then hiring herself into a private Family, on purpose to let her thievish Crew into the House, when an Opportunity best serves: But if such hiring a neighbouring Country or Town-bred Servant, does not occasion so great a Damage, yet it generally amounts to this, That their Relations, or Acquaintance, by coming to see them, bring to, and carry Tales from the House; and, even in this lower Sphere of Mischief, cause sometimes great Uneasiness and Vexation to the Family such a Maid-servant lives in. I also hire, for Gentlemens Service, any Ploughman, or other common Servant, that I think will credit my Endeavours to please any Person, who shall send me proper Orders for this Purpose.

The way of making Sage or Marigold-cheese, as practised by one of the best Dairy-women in the Vale of Alesbury.———This is best done in the Month of *May* or *June*, because then Sage and Marigolds are in their highest Perfection of Virtue, when the Dairy-maid takes a Parcel of Sage or Marigold-flowers, and puts them into a Mortar with a little Water, and beats and bruises them, till with squeezing their Juice will be strained through a Cloth: When this is done, she takes about half a

Pint of this Juice, which is enough for as much Cheese as a Pailful of Milk will make; and when the Rennet is put to all the Milk, presently after half of it must be taken out, and mixt with the Sage-juice, and lie till it curds: The other half must remain in its first Place, to acquire likewise a Curd: Then put the white Part first into a Cheese-vat, and squeeze it; upon this, put the green Part, and squeeze both very hard together: The next Thing is to take it all out of the Cheese-vat, and cut the Cheese first into narrow Cuts; then cut them across; and every other Piece, or Bit, is to be laid and squeezed two or three times more, till all the Green and White is mixt in one hard Cheese, about two Inches thick, and appears in Diamond-squares. This is a pretty way of making chequer'd Sage-cheese, as it is practised by a great Dairy-woman of my Acquaintance, who for many Years has been noted for making the best Cheeses of more than one Sort. But that my Reader may have a full Idea of making Sage-cheese, I will here transcribe a good Receipt, published by Mr. Bradley.

To make Sage-cheese in Figures. — Those that are willing to have figured Cheeses, such Cheeses as are partly green, and partly otherwise, must take the following Method: Provide two Cheese-vats, of the same Bigness; and set your Milk in two different Vessels; one Part with plain Rennet only, and the other with Rennet and Sage-juice, as directed in the above Receipt: Make these as you would do two distinct Cheeses, and put them into the Presses at the same time: When each of these Cheeses has been press'd half an Hour, take them out, and cut some square Pieces, or long Slips, quite out of the plain Cheese, and lay them by upon a Plate; then cut as many Pieces out of the Sage-cheese, of the same Size and Figure of those

those that were cut out of the plain Cheese, and presently put the Pieces of the Sage-cheese into the Holes that were cut in the plain Cheese, and the Pieces cut out of the plain Cheese into the Holes of the Sage-cheese, contriving to make them fit exactly: For this Use, some have tin Plates made into Figures of several Shapes, with which they cut out the Pieces of their Cheeses so exactly, that they fit without Trouble: When this is done, return them to the Presses, and treat them like common Cheeses: So will you have one Cheese Sage, with white or plain Figures in it; and the other a white Cheese, with green Figures in it. In making these Cheeses break the Curd equal, and press both Cheeses equally, before you cut out the Figures, or else they will lose their Shapes when made: They must be frequently turned and shifted on the Shelf, and often rubbed with a coarse Cloth: They may be two Inches thick, but not more; if they were, they would be apt to be made irregular: These will be fit to eat in eight Months time.

The Author's Remarks on Mr. Bradley's Receipt for making Sage-cheese.———Mr. Bradley's Receipt for this, I confess, is a pretty invented one; but there is a Danger attending the Operation: For if the Pieces in each Cheese are not put in very nicely, and made to fit very close to the main Cheese, a Mould will infallibly breed in the Joints, and then in course follows the Breed of Mites, and the Spoil of the Cheese. But my Receipt for making Sage-cheese is hardly half so dangerous, because it is better contrived for securing it against these Casualties; for, in this Work, the Pieces are easier and sooner made to join each other in a very close manner.

How the Dolphin-cheese is made.——— This is made by a Cut of the Figure of a Dolphin-fish in the wooden Mould, wherein the Cheese is press'd,

commonly called the Cheese-vat. Here, when the Curd is put into it, and press'd, it receives the Impression of the Dolphin on only one Side of the Cheese, in as full Proportion as the Length of it will permit; and that it may have the greatest Length, these Cheeses are generally made in a square Fashion, which hinders it being turned on both Sides in the Press, as all plain round Cheeses are; and therefore the Dairy-maid is forced to lay it but on one Side in the Vat, and on the Shelf, and often wipe and rub both its Sides to prevent its taking Mould: And when the Dolphin-cheese was formerly in common Request, the Mould, or Vat, was used to be lent from one Neighbour to another, throughout a Town; and then this Cheese was much esteemed as an Ornament, as well as Service to a lying-in Woman's Chamber, where the Gossips were wont to cut a Piece on the Outside of the Dolphin's Figure, in order to preserve the Sight of it to the last; for some would take a Pleasure to see this Figure so made on the Outside of the Cheese, with the very Scales of the Fish: But of late Years it is much in Disuse. By which, and Hundreds of other Instances, my Reader may perceive, That my Secrets were not altogether exhausted, by my writing twelve Monthly Books of the *Modern Husbandman*; for tho', in that for the Month of *May*, I have largely written on the Dairy, and making of Cheeses; yet I have here likewise furnished more Matters of Novelty. To which I add, That some Dairy-maids have a Mould cut to cause the Impression of a Plaice-fish on a Cheese, others the Shape of a Pompion, and will colour one Part of the Figure of a Pompion green, and the other white; the green Part being done with the Juice of Grass, or Spinach, which gives it only Colour, and no Taste. But more of Cheese and Butter hereafter.

C H A P. XIV.

Of OWLS.

Of several Sorts of Owls, and their Breed, and Usefulness.

IT may perhaps seem somewhat strange to my Reader, that I write on this Bird before many others; but the ensuing Discourse will prove it necessary I should do so, as well to prevent those fatal Accidents, that an ignorant Person is liable to suffer, who attempts to take young Owls from their Nests, as to shew their Service in Fields, Barns, and Cellars. It is well known to us Country-men, that there are certainly three several Sorts of Owls that breed in *Hertfordshire*: As the great brown Owl, which, at its full Age, is near as big as a Dunghilhen: The white Owl, that is a little lesser: And the Fern-owl, the least of all. The great brown Owl is chiefly an Inhabitant of Woods and Fields, and seldom in Barns. In these Places he acts the Bird of Prey; for he, and all the other Species of Owls, are rightly deemed Hawks; for of that Tribe they certainly are, because they live on killing and eating Birds, of Moles, Mice, Toads, Frogs, and other Vermin, which in particular are the Subsistence of the Field brown Owl. It is this brown Owl that builds its Nests in Holes, and hollow Places of Trees, from the Height of eight Feet, to fifty or more, and seldom or ever known to have more than three Young ones at a time, but oftener two. These generally have Young ones the latter End of *April*, or the Beginning of *May*; they begin to fly out in the Evening, remain abroad all Night, and retire at Break of Day into Holes in Trees, or into an Ivy-tree, or Bush, which they generally make their Residence the greatest Part of

the Year. With us the Owl is called, *Hobhouchin*, and makes a great hooping Noise, or Cry, many times in the Night, especially in a fair one; for when the Owl whoops loudest, and does this ofteneft, it is by most deem'd a Sign of pleasant Weather, according to the Verse;

—— Nor th' Owl, foretelling Rain,
From the high Roof, observing *Phæbus* set,
Will idly then nocturnal Notes repeat.

She will not sing against Rain; and has this further Observation recorded of her, That when she frequents a Town more than ordinary, it presages Mortality and Sicknefs to that Place: But, according to the Notion of Country Dames, it is this Screech-Owl that forebodes Death, or Sicknefs, in this manner; for these make a most disagreeable Noise sometimes in our Villages, and about our Houses, in the Night-time: One of which has been known to screech so near a Window, as to disturb a Family; and then it is reckoned a fatal Omen. On this Account, the Screech-owl is thought to be a different Sort of one from the rest of Owls; but most are of Opinion, it is the white Owl that performs this grating Noise. The white Owl is a distinct Sort, somewhat lesser than the great brown Owl; and differs from it, in that this Owl, if it can, will build its Nest in Houses, Barns, Church-steeple, or Granaries; and where they once have Young ones, it is difficult to make them forsake the Place. At *Seabrook*, in *Bucks*, there have been seen three Nests at a time, with Young ones in them, over a Ceiling in a Garret: And at a Farm-house, called the *Marsh-farm*, in *Great-Gaddeſden*, there have been six young white Owls found in one Nest, though their common Number is but three: Likewise, in our Church-steeple of

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Little-Gaddesden, a Nest of Houchin's Eggs, to the Number of two large whitish ones, has been found in the Bells Apartment. And their Young ones are commonly carefully preserved, for getting Six-pence apiece of the Higler, who carries them to *London* for Sale. This white Owl is a true Ranger in Barns, Stables, and Granaries, where it most diligently catches Mice; and for this very Reason many Farmers resent the killing of either the brown or white Owl, to a great Degree, as believing they do them considerable Service, in preying on their numerous arch Enemies the Mice; for it is well known, that their Nests are generally well furnished with dead Mice, with which they feed and bring up their Young. Not that this white Owl spends all its time abroad in Barns, Stables, and Granaries: For it is frequently seen to fly about early in Evenings, to catch Field-mice, Frogs, &c. before it goes into Barns; and it is this Sort that sometimes screeches, and are the true Screech-owls, as by Moon-shine has been seen. The Fern-owl is lesser than the rest, being about the Bigness of a Rock-pigeon, and of a dark-brown Colour; has a Mouth somewhat resembling that of a Frog, feather'd down its Legs to its Claws, and has Ears two Inches long each: It always builds its Nest on the Ground, often in Fern-breaks, and has seldom any more than two Young ones at a time. This Owl flies at Nights, and makes an ugly Noise. One of them built her Nest in a common Field of Grain, on the Grass, just by a Piece of Wheat of mine; and is a most hateful Bird; for, by its ugly Mouth, their Young are protected from being taken and kept.

How an Owl had almost blinded a Boy with her Claws, and how Owls blinded three other Boys.

—An Owl is one of the most furious Birds that is, in Defence of her Young ones. In the Year 1742. my youngest Son, a Boy, as he was passing through

through the *Hoo-wood*, near my House, to some of my inclosed Fields, espied a large brown Owl going into the Hole of a Beach-tree, where he imagined there was a Nest of Young ones: This made him stand at the Foot of it, to make further Observations: But it was not long before the Owl descended in an angry Posture, and struck his Hat with her Wings; then flew up into his Hole again. However, the Boy was not daunted at this Encounter, but had a mind to fight it out with the Owl: Upon this, he struck a Pitch-fork that he had in his Hand, against the Tree, to alarm and provoke the Owl to come out: Which answered his End; for no sooner had he done this, but the Owl came swiftly down in a strait Line, to strike at his Face with all her Might, which the Boy expecting, met her time enough with his Pitch-fork, and with one Blow brought her to the Ground. Thus having conquered his Antagonist, he carried her away in Triumph, and made the most of her Carcase, by burying it in the plowed Ground towards a Dressing of the Field. *William Newens*, a Butcher, of *Ivinghoe*, in *Bucks*, now living there, when he was a Boy, went to take out some young Owls from their Nest; and did it very safely, as it happened; but he severely smarted for so doing, for as the Nest was near a Farm-yard, tho' the old one was prevent hurting him at that time of the Day, when he seized and took away her Young, yet she remembered the Injury till the Evening, when she watch'd her Opportunity, and flew at the Youngster's Face, as he was carrying some Provender to his Horses in the Stable; and peck'd one of his Eyes, so that he intirely lost the Sight of it, and is blind of it to this Day, 1744. Likewise, one *Thomas Glenister*, a Carpenter, now living at *Norch-church*, in *Hertfordshire*, met with the same Misfortune; for as he was taking out
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Some young Owls, the old one, like a true Artist, hit her Mark, by flying directly at his Eye, and perfectly blinded it. But the third and last Instance of a Boy's Folly, and an Owl's Rage, is a more fatal one than the rest: One *William Brown*, who formerly lived near *Harding*, in the Parish of *Whetbemsted*, *Hertfordshire*, was another of these bold ignorant ones, that would not be persuaded an Owl could be so much his Master as to hurt him, tho' he took out her Young; but he found by woeful Experience she was: For she struck out one of his Eyes in the Action, and left such a Venom of her Claws behind, that it festered, and caused the Loss of the other Eye, so that he was totally blind for twenty Years before he died, as his Brother, my Neighbour, assured me: Nor are the other two Facts less true than this; for I live within three Miles of the first Places, and within nine Miles of the last. The Use of this is intended to become a Warning to others, to avoid coming under the like direful Effects; and the rather, because I know, that adventurous Youths are most of them so silly, as to disbelieve such a Bird as an Owl dare attack and wound them, though they provoke them ever so much; according to the old Saying commonly made use of by our Country *Corydons*, in their quarrelling Disputes, *Do you think I was born in a Wood, to be scared by an Owl?* But this is to let them know, That neither the brown nor the white Owl is afraid to encounter the stoutest Man, at the Hazard of their Lives, much less a Boy, and strike out one, or if she can, both his Eyes; for these are the very But of her Aim, and, when she has an Opportunity, she seldom misses of her End; because she swiftly makes at her Enemy with her Wings, and strikes with her three long Claws, like that of a Cat, and with her Beak at the same time; so that if the first fails her, the last commonly

commonly answers the Purpose. But such Danger must undoubtedly be much greater, in taking out the Young ones of a *Swedish Owl*, whose Carcase seemed to be as big as one of our *English Turkeys*, with little Horns on its Head, as I remember (if I mistake not) That had I once saw among other rare foreign Animals, in the Tower of *London*. However, though an Owl has this malign Quality belonging to her, of striking at the Eye of any Person, that attempts to bereave her of her Young ones, and will, like a Hawk as she is, kill Leverets, young Rabbits, and Birds; yet she is possessed of some good Properties, as her killing and eating Adders, Moles, Toads, Frogs, Mice, and other Vermin, in the Field and Barn. So, in Vintners Vaults, and other great Cellars, Owls are sometimes kept for destroying, and keeping under, the Breed of Weasels, Rats, and Mice. A Boy, and a Girl his Sister, were the Son and Daughter of a Park-keeper; when the Boy climbed a Tree, in Company of the Girl; and took out two *Hob-houchin's Eggs*; but put in two Eggs of a game *Dunghil-hen's* in their room, which the Owl carefully hatch'd, and the Young ones taken out time enough to be brought up by Hand so well, that the Cock proved a furious one, and won one or more Battles, which they partly imputed to the Owl's sitting on the Game-eggs.

How a Thrush struck a Boy's Eye, as he was taking her Young out of a Nest. — That what I have before written on the Courage and Mischief of an Owl, may not seem any ways doubtful; I add, that one Mr. *Wilkinson*, a Farmer, now living in the Parish of *Great-Gaddesden*, 1744. when he was a Boy took some young Thrushes out of a Nest, built in a Solar Stem, which Stem at this Day stands in Sir *Thomas Seabright's Park*, near *Market-street*, in *Hertfordshire*: Then it was that the old Thrush

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flew at his Face, with such Vigour, that with her Claws, or Beak, or Both, she put out one of his Eyes ; and he has been blind of it ever since.

Of hunting the Owl. ——— This is done by Boys for Diversion only, without any View of Profit ; and when they do this, they beat the lower Parts of Trees with long Poles, to make the Owl fly out ; for in such Places she takes up her Residence in the Day-time, and especially in that Tree where Ivy grows about it ; for this is an Ever-green, and affords them the best Shelter all the Year. When they have found an Owl, they drive her from Tree to Tree ; for in the Day they never fly far at a time ; and if they can get her into a Field, from a Wood, they throw Sticks or Stones, to keep her Flight against the Sun ; and if they can do this, for about forty or fifty Poles length, she will tumble down, and become their Prey.

Of catching Birds by a tame taught Owl. ——— The Owl, the Horn-owl, or the Horncoot, is that Sort most proper for this Purpose ; for this is a large Bird, that keeps altogether in Woods, and great Forests, being often bigger than a middle-sized Goose ; with hairy Eyes, and rough-footed, great Tufts of Feathers on either Side of his Head, bearing out like Horns, his Face broad and large, his Eyes great and sparkling, and his Voice terrible ; but being a Bird that usually sleeps by Day, when other Fowls espy him, they gather about him both great and small, and attempt to kill him. When a Fowler has got such an one as this, he need not want Sport, or Recreation, after having made him fit for his Purpose : To which End, let him first teach him to come and feed on his Fist ; and then put him into some Room, or Cock-loft, where there are placed two Pieces of Timber, one at each End of the Room, which should be

two Feet high, and the upper End cut like the Ridge of an House declining on both Sides, that the Horncoot may perch thereon: Then tie a Cord from one End of the said Perches to the other, having first drawn it through an Iron-ring, or Loom-string Leather Strap, to which tie a Strap about three Feet long; and at the other End your Horncoot is to be fastened by the Legs, like a Hawk; but the Ring, or Strap, must be loose, so as to play backwards or forwards, from one Billet to another, that the Bird may divert himself when he is minded to change Places.

At first set not your two Perches, or Billets, above six or seven Feet asunder; but afterwards you may lengthen by little and little, as you perceive he comes on; let him not rest at any time on the Ground; and let the Strap by which he is tied, be proportion'd to the Height of the Perches.

You must also teach him to fly from one Stand to another; but never feed him on that Perch where you find him, but only shew him his Food, to draw and entice him to the other Perch.

When he has had a Reward of two or three Bits, remove yourself to the other End, calling him; and, unless he come to the other Perch, give him no more; and hereby in a short time you will find he will be too quick for you, and in two Months time he may be perfected therein.

After this, to prepare a Place and Instruments to be used in taking Hawks, and other Birds, by the Help of this Horncoot, chuse out some Quarter that lies high and open, free from Hedges, or Buihes only, with a single Tree, distant at least four hundred Paces from any other, with a large round spreading Top, and pare away all under Boughs; the Stem of the Tree must be cleared twelve Feet round from the Ground, the top Branches being all pared away, to bring the Whole into an uniform Cut, no Place
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sticking out more than another, that your Nets may play the freer: If there be any void Place in the Tree, whereby a Bird may sweep through, and strike at your Horncoot, which is under it, you must stick some Boughs in there to prevent it; but it would not be improper to have three or four Boughs below, to jut out somewhat more than the rest; upon which a Bird may take stand to view your Owl at the Bottom of the Tree.

All the Leaves, Choppings, and broken Sticks, are to be carefully gathered up, and put out of Sight; for Hawks especially are very jealous and observant: That done, chuse out three Boughs from under the Tree, that stand in a Triangle, at equal Distances; the third being put behind the Tree: Then with your Knife make a little Incision, or Cleft, at the End of each of the said Branches, which Clefts should be distant about nine or ten Inches from the Body of the Tree: The Use of them is to receive as many little Pegs, which are fastened to the Cords of your Net: Afterwards preparing two Billets, one of which place about four or five Feet from the Body of your Tree, which must be strong set in the Ground: The other is to be planted at above an hundred Paces distant, and forced also into the Ground: Then stick up four or five Branches about three Feet from it for a Lodge, where you may withdraw; and behind each of the Billets drive a strong wooden Peg, and your Place is fitted.

Your Lodge thus prepared, take your Horncoot, your Cord, and Folding-ladder, and get early to the Place; and there plant the Ladder against the hindermost triangular Clefts, and fix the Peg, which is fastened to one of the Cords of the Net, into the Cleft; but it must be very gently thrust in; then remove your Ladder, and gently thrust into the Cleft the Peg that is at the other

End of the Net: That done, carry the Ladder, and put into the other Cleft one of the Pegs of the other Net; the other Peg of your second Net is to be fastened into the Cleft of the Branch which is behind the Tree; then your two Nets are set in Triangle above: After that remove your Ladder to some private Place, or fasten it on the Backside of the Tree to lie close, and draw your Line between the two Perches, with the Iron Ring, or Leather Buckle, clapt on it, for your Horncoot to move in and out, as there is Occasion; and fix the End of the Line at the Stake in the Lodge.

Every thing being thus disposed, withdraw yourself, and watch your Horncoot, to observe if he discover any thing; and, when you find him turning his Head a little on one Side, and his Eyes aloft, give him a little Twitch, and make him forsake the Perch, for he must be placed on that; and he will fly alone, after a heavy manner, to rest himself on the other Billet, or Perch, under the Tree; and when the Bird that passes by, has discovered him, he will stoop at him, and, perceiving the Tree, will take a Stand to consider his strange Countenance; and, resolving to set on him, casts himself into one of the Nests, and soon falls down upon him; and you must be nimble to take them out: Then set your Net as before, and withdraw your Horncoot to your Lodge again, on the Perch.

C H A P. XIV.

OF EARLY RISING.

The Importance early Rising is of to all Persons who occupy Land, shewn by Reason and Examples.

THIS Subject I have thought necessary to treat on, as it concerns the Gentleman, the Farmer,

Farmer, and all others who occupy Land, because on their early rising very much depend their Loss and Gain ; for as little as this Article may be regarded by some, I am sure the Neglect of rising betimes, has been the chief Part of the Ruin of many Farmers and others — *'Tis the early Bird that catcheth the Worm.* — *Without Pains, there is no Gains.* — Or, as *Seneca* says, He that lives by Nature shall never be rich. It is therefore incumbent on a Land-occupier, to repose betimes, that he may the better rise betimes ; as the Practice is of the best Sort of Farmers, who for this Reason generally go to bed all the Summer-season at Nine o'Clock, and rise at Four ; and in the Winter at Eight, and rise at Five or Six, that they may be early enough up to detect the Villain that endeavours to enrich himself by his Neighbour's Loss, and make his Advantage by his late rising. I knew a Man of this Stamp, who, being employed as a Day-labourer, by a Gentleman, was accidentally seen to carry off his Fruit in a Morning to his own House, before the Gentleman was up ; and, as this same Fellow did sometimes thresh out his Corn, he was discovered to fill the old Sleeve of a Frock with it, in order to carry it off, as he did the Fruit ; and yet the Gentleman was so bigotted to this Knave, that he excused what he had done, and continued employing him, till it was thought he had imbeziled to the Value of some Scores of Pounds from him ; for he had an Opportunity to steal his Corn, or other Things from him three times a Day, by reason he lived so near the Gentleman, that his Custom was to go home to Breakfast, Dinner, and Supper ; whereby he had an Opportunity to steal Things to a very great Amount in a Year's time. Hence it is, that the old Saying took its Rise—*No Cheat like the Country Cheat* : Because some such wicked Fellows, who

who go in a round Frock or Ruffet-coat, and, in *Hertfordshire*, with their Shoes tipp'd or shod with Iron, to the Weight of seven Pounds a Pair, are not mistrusted to be such arch Thieves, as to play this horrid Legerdemain under a Gentleman's Nose: And it is on this very Account, that many of these Sort of Land-holders are led into most prejudicial Mistakes.

Bishop Berkley's Notion of early Rising.——

It must be lamented, says he, at Page 51. in his Book on Tar-water, That our Insulars (or Islanders) who act and think so much for themselves, should yet, from the Grossness of our Air and Diet, grow stupid, or doat, sooner than other People; who, by virtue of elastic Air, Water-drinking, and light Food, preserve their Faculties to extreme old Age; an Advantage which perhaps may be approached, if not equalled, even in these Regions, by Tar-water, Temperance, and early Hours: The last is a sure Addition to Life, not only in regard of Time, which, being taken from Sleep, the Image of Death, is added to the waking Hours; but also in regard of Longevity and Duration, in the vulgar Sense: I may say so too, in regard of Spirit and Vivacity, which, within the same Compass of Duration, may truly and properly be affirmed to add to Man's Life; it being manifest, that one Man, by the brisker Motion of his Spirits, and Succession of his Ideas, shall live more in one Hour, than another in two; and that the Quantity of Life is to be estimated, not merely from the Duration, but also from the Intense-ness; which Intense-living, or, if I may so call it, Lively-life, is not more promoted by early Hours, as a Regimen, than by Tar-water, as a Cordial, which acts not only as a slow Medicine, but hath also an immediate and chearful Effect on the Spirits.

A Calculation of Time, shewing how vast an Opportunity of improving ourselves is too frequently neglected. — Northampton, 30th of April, 1744.

A Gentleman of this Place has lately made the following useful Calculation, to shew how vast an Opportunity of improving ourselves is too frequently neglected. The Difference (says he) between rising every Morning at Six, and Eight, in the Course of forty Years (supposing a Person to go to Bed at the same time he otherwise would) amounts to twenty-nine thousand two hundred Hours (i. e. $365 \times 2 \times 40$) or three Years, one hundred and twenty-one Days, and sixteen Hours; which will afford eight Hours a Day, for exactly ten Years: So that it is just the same, as if ten Years of Life (a weighty Consideration!) were added; in which we might command eight Hours every Day for the Cultivation of our Minds in Knowledge and Virtue, or the Dispatch of other Business.

How a certain Yeoman made use of several Devices to make his Servants rise betimes; and how, by his extreme Diligence, he got a great Estate. — What I here am writing of, is true Matter of Fact; That a Yeoman, in the Parish of C——m, in the County of Bucks, was observed to be the most diligent Person in the Parts he lived in; was one that understood his Business perfectly well; and so closely pursued it, that he has added several Purchases of Land, to those made by his Ancestors; insomuch that he is, at this time, Owner of six several fine Farms, in and near the Parish he lives in. Now the main profitable Article of his Management lay in getting up his Servants betimes in a Morning: And to do this the more readily, he was constantly up himself about two o'Clock every Morning throughout the Summer, and at three throughout the Winter; and being thus the first up in the House, he commonly made use of one Sort of Device.

Device or other, to disturb his Servants, for provoking them to rise out of their Beds presently after: And among others of his Inventions for this Purpose, he would rouse his Swine, and entice them out of their Sties with a Feed of Beans or Peas, that he would throw on the Ground, and cause them to make a continued Noise for some time to alarm his Men, and make them believe it was later than it really was. At another time, he would affright his Poultry, and force them off their Roosts, that their Cackling might answer the same End: But when these Stratagems grew common and known, he would invent others: He would call out, and bid Good-morrow to several Persons, as if it was Day-light, when there were none to speak to: These, and many other useful Artifices he frequently applied.

C H A P. XV.

The present bad State of Husbandry, as it is now carried on in several Parts of Scotland: And Proposals made for remedying the same.

S I R,

THE Scots Nation ought to encourage you, since I am well informed, Husbandry is carried on there in a very bad Way. Small Inclosures, Clover, and Artificial Grasses, are altogether unknown there, except in some few Places, and near Towns, where some, who, by travelling in *England*, have learned the Advantage of them, have introduced them: Nay, Wheat itself is so little propagated, that it is carried from *Tiviotdale* thirty Miles to *Dumfries*, twenty-four Miles farther to *Kilconbricht*, if not ten Miles farther to *Wigtown*, in *Galloway*; and from *Tiviotdale*, also, West to
Irving

Irving and *Air*, the whole Breadth of *Scotland*; though there are Plenty of good Lands on both Roads, capable of producing abundance to serve the Inhabitants; as also help their Neighbours, if any tolerable Pains were taken. Their ordinary Way is to lay their House-dung on the nearest Spot, which they call *Croft*; and take a Crop of Barley, and one or two of Oats; then dung Barley and Oats, and so round, they sow for Scores of Years without resting, or fallowing. Their Oat-fields are all open, without the least Shadow of Inclosure; are slightly folded; and yield two Crops of dropped Corn, white and small Grey, and two more of a small Grey, not worth Plowing for; and, lying only four Years lee, are again folded, &c. And as there are no Grasses sown, the red Earth is scarce covered, till it is again plowed. Till of late, they had a great Aversion to the low fat Land, counting it cold, sour, and useless, except for Grass; and therefore only plowed the upper High-lands, and that very shallow, fearing the new Earth would hurt their Crops; for they had no Notion of *French* Plowing, and Fallowing, that the Air and Frosts might qualify the new Ground: By these means their Crofts are full of Weeds, &c. and a dry Year ruins the Farmer. The Gentlemen, finding these Inconveniences, some Years ago, turned their Grounds into large Parks for Cattle; so that there is not Food for the small Number of Inhabitants that are left: For though there are several Miles Distance betwixt Houses, not only in the moorish Places, but large Wastes, in the low arable Country, yet they are not only provided with Wheat as above, but also with Oatmeal, from the *English* Border. The Fondness to rear Cattle, makes them allow the Calves to suck whilst they are milking, in a Way not so cleanly (this is only in some Places); so that they have neither Butter, nor

Cheese, to answer their own Demands; but have both fresh and salt Butter, and Cheese, imported on *Solloway-Frith*, and great Quantities of both on the East-coast all the Way to the North. It is plain a Farmer from *England*, or any *Scotsmen* who has learn'd your Way, might soon make themselves rich, the Rents are so low, and Prices of Grain, Butter, and Cheese, higher than in most Places in *England*; and I am well informed, some *Englishmen* who have gone into *Scotland*, have made large Profits; and if a Farmer had so much Stock, as to keep his Grain for two or three Years in time of Plenty, he might make large Gain. For in the last Dearth of 1740. many Thousands of Pounds were sent from both Sides of *Scotland* into *England*, or they would all have starved; and I am inform'd some did; notwithstanding the Gentlemen's large Advances, without any Profit, but considerable Loss: And I can also assure you, that the Gentlemen of *Scotland* are, as I am informed, sick of grazing Cattle; which are too precarious, some Years yielding large Profits, and others scarcely giving prime Cost for twelve Months keeping. Several of them are sensible the Numbers of Inhabitants are the Strength of a Country, and are applying themselves to Lint, and other Manufactories; and would be fond of Tenants that understood Farming, being sensible the Rents are more certain; and I am sure their Rents may be considerably advanced, by making small Inclosures, Grasses, Wheat, &c. by which means it is plain that great Numbers of Cattle might be exported yearly, and much larger; the Number of Inhabitants increased; Trade, Manufactories, and Consumpt increase, and the whole Nation flourish. And if any have a mind to try this Method, I can inform such, of good Farms on low Rents and Taxes, either for Life, or a Number of Years, and all suitable Encouragement from

from several Gentlemen, who, I am well assured, desire nothing more than such Farmers. You are heartily wish'd all Success from, Sir,

Sept. 10. 1744:

Yours, &c.

P. S. Sir, Your saying, in yours of the 23d ult. That you would publish my last in your Paper for *May*, is the Reason of giving you this second Trouble. I shall not trouble you with my Reasons for refusing to appear in Print: But as that Letter was not so worded as I could wish, if you think fit to publish the above-mentioned, you have my Consent, and I hope it will be to your Profit; since the seeing it in your Book will encourage my Countrymen to apply to you, both for your Works and Instruments; a Set of which I design to have, as soon as I can fall on a way to get them down.

The Author's Observation on the Scotch Gentleman's Letter; with some Hints of the defective Management of many of our English Gentlemen and Farmers. — The ingenious *Scotch* Gentleman deserves no little Praise for his so strenuously endeavouring his Country's Welfare, in the most necessary Branches of all others, those of Husbandry; and which ought, in some measure, to serve as a Mirrour to our *English* Gentlemen and Farmers, for seeing their Deficiencies. Here this Gentleman says, The *Scots* are weary of running chiefly into Grazing of Cattle, because they are forced by this Business to bear a long Stock, till the Beasts are fed and fatted, and for which there is so much Ground employed, that there is the less for Corn, &c. This, with their ignorant Management in Agriculture, obliges them to be at great Expences to buy their Grain in remote Parts. To remedy this, this prudent, foresighted Gentleman consults my Books, corresponds with

P 2

me,

me, and says he will have the best of Instruments sent him, for improving Crops of Grain, Artificial Grasses, &c. and does what he can to invite *Englishmen* to take Farms in his Country, according to the Duty of a true Zealot for his Fellow-subjects Interest. But to come home; I have to observe, that in my Opinion, our *English* are too much bi-gotted to the Sowing of Wheat, Barley, Oats, Beans, Peas, Artificial Grasses, and Turneps only; which, I must indeed own, of late Years they have made surprising Improvements in the Increase of: Yet I cannot but think we are much wanting, in not endeavouring to cultivate our Land for other Sorts of Crops; as those of Canary-feed, Lint-feed, Hemp-feed, Rape-feed, Caraway-feed, Coriander-feed, Saffron, Liquorice, Woad and Wold, Hops, Carrots, and others; for the Production of all which, we are blest with right Soils and Situations, in a most agreeable Climate, in Thousands of Places in *England*, where none of these at present grow, nor ever were sown; and which, in most Parts of *Scotland*, they can't enjoy, any more than they can the Growth of Wheat, because their Climate (if not their Land) is disagreeable to their Prosperity. However, it is obvious to all the World, that the *Scotch* Gentlemen, at this time, begin to see their Deficiencies in the Field; and, as a Specimen of their Ingenuity, they have discover'd themselves to be Reformers of their Country, and particularly in that Branch of improving Lintseed, in order to promote the Manufacture thereof: And indeed it must be confessed, that the *Irish* and the *Scots*, have so far proceeded and succeeded in this Affair, that they have made Linen, almost, if not quite, equal, in Fineness and Goodness, to that of *Holland* and *France*: And shall we *English* look on this their diligent Improvement, as indolent Spectators? Surely, one
would

would think, that the Cheapness, and very low Prices, of Grain, that are at present, and have continued for almost three Years last past; and the many Examples of Farmers breaking, by having poor Crops of Corn, and selling it for Half a Crown, or three Shillings a Bushel, Wheat and other Grain in Proportion; were enough to induce us to think of altering our common Way of Farming, and sow the before-mentioned, or some other beneficial Seeds, in some of those Earths and Situations, that will admit of their Improvement: For Change of Seed oftentimes proves the Increase of Crops, as well as Change of Pasture makes fat Beasts. And if any Persons are resolved to put in Practice any or all of these Improvements; if they don't understand it themselves, I am ready to inform them, by Letter or otherwise, and procure and send them proper Seeds, Plants, Instruments, or any other Thing that is in my Power to help them to, for promoting so good a Design, that must consequently redound to their own, and their Country's Welfare. And as I have received a Letter from a most ingenious Gentleman (altogether a Stranger to me) while I was writing these Observations, relating to Improvements in Husbandry; I shall insert the Copy thereof, that is as follows; *viz.*

L——y, September 30, 1744.

S I R,

PLEASE to send me as under, to be at the Bull in *Dunstable*, by *Monday Sevensnight*, at Seven o'Clock in the Morning; to go by Mr. *Wright's* Waggon, of *Warwick*, whom I ordered to pay you for what you send: I live at a Place called ———, within ——— Miles of *Warwick*; and have a Farm there, of about eighty Acres, or better,
all

all inclosed in sixteen Fields, some gravelly, some loamy, but most of a marly Nature, which lie about nine or twelve Inches from the Surface, to a great Depth, all over my Grounds, and my Neighbours. Now I have bought all your Monthly Books, and some others, and have followed your Advice in sowing Lucern, St. Foyn, and other Grass-seeds; and also steep'd my Barley in your Salt-petre Receipt: But so averse are our Men to to be put out of their old Road, that I have not had that Success, as I verily believe I should have had, if I had had one of your Countrymen: Wherefore, if you have any Opportunity to send me a good Ploughman, between this and *January*, I shall take it as a great Favour, and make a suitable Return to you. I would have the Man understand Sheep, Horses, and other Beasts, with your Drill-ploughs and Horse-break; and please to send me a Letter by the Waggoner, the Price of your Sort of Ploughs and Horse-breaks, along with as much Pirky Wheat, as will sow two Acres; and as much as will sow one Acre, of your other Sorts of fine Wheats, you mention in your Books; I mean an Acre of each. These I have a mind to make Trial of; also send me your Tool to clean Wheat with; and, if a proper Time, send me two Parsnep Apple-trees, and Orange Pear-trees. Put the Names of the Wheats in your Letter, that I may know them, with proper Directions about the Use of the Tool, &c.

I am, S I R,

Your most humble Servant —

Direct for me at —, near —, to be left at the
—

The Author's Answer to the Warwick Letter —

S I R,

I Have collected the several Sorts of fine Wheat-seeds, where I could best meet with them, as the best our Country affords, according to your Desire; viz. Red Lammas, Yellow Lammas, White Wheat, and Pirky Wheat, in as clean a Manner as I could; for if Seed-wheat is not clear of the Seeds of Weeds, and other Trumpery, the succeeding Crop will be certainly stained by them, and the Ground damaged, besides, with their Breed: But as these Wheats are neat, you have good Encouragement to propagate them hereafter. It is this valuable Quality in Seed-wheat, that makes our best Husbandmen be at extraordinary Charges, for sending many Miles to get a right Seed; not only for having it from off new-broken-up Ground, free of all Soil, but to enjoy the best Sort of the same Species; for there are different Sorts of Red, Yellow, White, and Pirky Wheats; and therefore it was, that although I bought some Part of what I send you, at *Hemsted-market*, on *Thursday* last; I was obliged to send to three different Places besides, to obtain the purer Seed: And yet it is in your Power to make a further Improvement of them, by the Cleansing-tool, which by Riddling, will separate the small lean Kernels, from the more large; and then the last is what must be sown, and the rest given to Hogs, Fowls, or put to another Use. I have sent you five Bushels of Yellow Lammas Wheat, in one Sack, instead of the like Quantity of Pirky Wheat-seed, to sow two Acres; because I send you this as a better Sort than the Pirky, and is what we now most run upon, both in fat Vale-earths, as well as in the leaner Chiltorne Grounds; for this will grow well in any Soil; is much coveted by the Wheat-buyers,

buyers, yields well, and is sown more than any other. With this come two Bushels and a half of Red Lammas; the same of Pirky, and the like Quantity of White Wheat; in all, twelve Bushels and a half, for sowing five Acres of Ground, at two Bushels and an half on each Acre. The Account stands as underneath — As to the Three-wheel Drill-plough, and Horsebreak, their Prices will be these; 3 *l.* 1 *s.* for the Plough, and 1 *l.* 8 *s.* for the Horsebreak; in all, 4 *l.* 9 *s.* which are cheaper by Forty Shillings, than those made elsewhere; so that the whole Charge of the Drill-plough, and Horsebreak, delivered to your Waggoner at *Dunstable*, will be, in all ——— because Five Shillings is charged for my Cart and Horses, to draw them thither. The Lammas Red Wheat must be sown the first of any, in your stiffest Land; the rest afterwards in gravelly or light Soils; not but any of them will do in stiff Earths: But I would advise you to sow, hereafter, more of the Yellow Lammas, and White Wheat, than the other two: And you may sow the Yellow Lammas mixt or intire, and the same of the White Wheat. Many sow half one, and half the other, in a Mixture, because the Lammas and the White Wheat agree in the Mill, and in the Sack of Flour best; for the Flour of the White is too brittle to make Bread alone; for the Baker says, the Loaf in Dough won't stand, if made all of White Wheat; but, when mixt with Lammas, it is right. For your inclosed Ground, the Drill-plough and Horsebreak will do Wonders, if used according to my future Directions; and with them you must have three or four *Dutch* Hoes made, that are to be employed between the Drills of Wheat, by shoving it from the Hoer as he works it: One of Three Shillings and Six-pence Price, fix'd in a six-feet-long wooden Handle, is enough to send you, for your People to make more by its Sample;

ple ; and as you would have me send you a Plowman to manage them, I have to say in Answer, that you hereby strike at the very Root of Improvements in Husbandry, and hope in a little time to find out one that will suit your Purpose. As you are Master of inclosed Fields, you have a most convenient Opportunity to make an Improvement of them, by the Breed of tame Pheasants, which may be bred by Dunghil-hens sitting on their Eggs, and bringing them up afterwards as their own Chicks, and this in a very cheap Manner ; for these Birds will get most of their Summer Living among green Wheat, Oats, or Barley ; or among Clover, or Lucern-grasses ; or among Rapes sown in the Spring, on purpose for them. And in Winter, when confin'd to an open Walk, they'll live on Turneps, Rapes, or Cabbage ; and on the dry Kernels of Wheat, Barley, or Oats : And thus a Person may command tame Pheasants at any Time of the Year, for Sale, or for the Table, at a very cheap Rate : A further Account of which may be seen in my Books of Husbandry, &c. &c. &c.

Little Gaddesden, September 8th, 1744.

C H A P. XVI.

Of an Adder-catcher, and an Apothecary.

AN Adder-catcher and an Apothecary meeting together, the former ask'd the latter, If he would buy any Adders ? He answer'd, No ; for that he could catch them as well as he : Upon this, Words arose between them, till a Wager was laid ; and accordingly they went out together. The Apothecary pass'd by two Adders in one Hedge, and then the Adder-catcher told him of it, and shew'd him where they lay. Upon this

the Apothecary held out a Rag at the End of a Stick, which the Adder directly struck at, and bit; and, pulling the Rag hastily out of the Serpent's Mouth, said, Now I am sure he can't hurt me; and took it into his Hand. But it so happened, that the Adder bit him; and, on the Bite, the Part immediately swell'd; and it was thought the Apothecary would have lost his Life, had not the Adder-catcher applied his *Nostrum* Remedy in due Time. — This Case ought to be a Warning to presumptuous self-opiniated Persons, who trust too much to superficial Accounts, That there is no Harm in an Adder, after he has once bit a Rag; because, say they, by such Bite he has expended all his Venom, and becomes harmless. But I affirm it not to be an infallible Rule: For that as the Poison of the Adder is contained in a little Bag or Bladder, that lies at the Bottom of the Teeth; if this is not sufficiently expended, or that its Teeth are disabled from Biting, a Person is in Danger of suffering by the Bite; for the Adder's four Teeth are placed on purpose to serve as Instruments to bite, and make way for the Venom to enter the Wound they so make; which is done in the Bite, when the Adder extends and opens his Teeth, as a Cat does her Claws; and as these enter the Flesh of Man or Beast, the Bag of watery Venom is compress'd and squeez'd, till part or all of it bursts into the Wound, mixes with the Blood, and infects it, till the Body swells, and the Creature dies, unless cured. Hence it is, that an Adder's biting a Rag once, is not to be depended on, for making that Animal harmless; for I should be loth to trust to a second Bite (though there is certainly more Assurance after that, than a single Bite), because some of the Venom may be only expended in the Bites, and not all. But, for clearer Proofs of this, I must refer

my Reader to those Facts that I shall hereafter publish.

C H A P. XVII.

The Case of a Gentleman, who, in 1744, had 500 Pounds a Year fell into his Hands, and wrote to the Author for his Advice how to manage it.

The Copy of his first Letter to the Author.

Mr. ELLIS,

I Am an old Man, though a young Farmer ; not but that I have generally had a Hundred a Year in my Hands, though I never took much Notice of it, letting my Servants go on in the old Way, called *Dobyn's Path* ; but now am obliged to look about me the more, for having Six hundred a Year in my Hands ; and am somewhat backward in Sowing, having but one hundred Acres of Wheat, when I ought to have One hundred and forty Acres : I did intend to have sown twenty Acres of Wheat this Month, which is more than ever was done in my Neighbourhood : But the Frost holding so long, has backened me, for fear of more hard Weather, I must tell you, that twenty Acres rested one Year ; and in the Beginning of last Month, I ploughed it up, which has been dunged very well ; but, being too late for Wheat, I intend it now for Peas ; but what Sort, I must take your Advice in ; whether a Mixture of Home Grey, and Maple Peas, or the Nonpareil, which is a Rouncival Kind. — I must tell you, That I am in a Chilturue Country, of about four or five Inches of Earth, which is a Mixture of black Earth, chalky mixt with Flints, a dryish Land : Now I would have as many Peas of you, as would sow six Acres ; and desire that you will let me

know, What you must have a Quarter, to deliver them at any Place half-way betwixt *Hungerford* or *Marlborough*. I would also know the lowest Price of one of your Swing-ploughs, which you describe in the Month of *March*, to be delivered at the same Place. I shall have further Dealings with you, against another Year. I want to see you at my House, in ——— street, near *Red-Lion-Square*, *London*.

Yours, &c.

London, March 5th, 1744.

The Copy of his second Letter to this Author.

S I R,

I Had your Letter too late, to have answered it last *Saturday* : Please to send the sixteen Bushels of Peas, a Plough, and two Sieves, to the *Swan-Inn*, at *Holbourn-Bridge* ; and there left at *Blathwait's* Warehouse.

I leave the Sort of Peas to you, and what Sort of Plough you think best : I shall want more Things, and design to go into the Drill-husbandry, but that must be another Year ; and I must have one that understands it, for those are strange Things with us. I am in a dry Country, though my Farm is allowed to do pretty well in a dry Year : We have a blackish Earth, chisly, though some a little upon the Red, all flinty, more or less ; but small Stones, such as don't hinder the Plough.

I have got your five Books, but I can't find your Salt-petre Receipt, and may have a general Occasion for that, or some other such Receipt, having above three hundred Acres to sow this Year, of the Lenten Crop, though a good Part of it is sown already. I hope to see you the Beginning of next Week ; and am

Yours, &c.

London, March 12. 1744.

An Account of the Author's Answers to these Letters, and his Transactions relating to the same.———
 Instead of sending this Gentleman the Things he wrote for to the West, it was thought more adviseable to send them to *London*, which I did. Part of the Peas were of the Blue Sort, part of the Hundred-for-one large dun Sort, and part was of the large white *Carolina* Sort, with two different Sorts of Sieves for Cleansing of Wheat and Barley-feed, &c. And when I dined with this Gentleman at his House in *London*, he asked me, Which way I could best advise him to improve his Estate. I answer'd him, That as I had in my late Travels been accidentally through Part of his Estate, and lain at an Inn, that had his Coat of Arms for the Sign, I was somewhat a Judge of the Nature of his Soil, and that some of it was an agreeable Sort to be improved with planting it with Saffron. Upon which he replied, It was the same Thought that he had often revolved in his Mind: And since my Fancy tally'd with his, he was resolved, in this Month of *June* 1745. to begin a first Plantation of it, in a Country where I suppose none of it was ever planted before. And as the Blue Pea, the Hundred-for-one Pea, and the *Carolina* Pea, are all of them of an agreeable Nature to a gravelly, a stony, or a dry loamy Land (which are the Earths that this Gentleman's Estate chiefly abounds with), he stands the better Chance of having full Crops of them. But had I sent a Home Grey, or a *Windsor* Grey Pea, at that Time of the Year, I had acted very imprudently, for that such Peas require an earlier Sowing, in *January* or *February*, at latest, to have the Opportunity of receiving the forward Rains, which their hardy Natures can well dispense with, and be greatly improved by them, when a more tender Sort would perish under the Influences of too early cold Airs and Rains.

Also,

Also, as this Gentleman had a great deal of Land to sow with Lenten Grain, it was very probable it must be late before he could have done sowing. In this Case, the Blue Peas I sent him, might be very well sowed throughout the Month of *April*; for indeed, in our Chiltorne Country of *Hertfordshire*, we seldom sow them sooner.

A Country like this, which is situated in the Heart of the West of *England*, under the benign Influences of a free warm Air, affords a Gentleman a very favourable Opportunity of making himself great Returns of Profit, by keeping the Breed of tame Pheasants; for in such a Soil that abounds with dry, arable, and sward Grounds, and where bloweth a most sweet free Air, the Species of these Creatures may be propagated under Dunghil-hens, in prodigious Plenty, at a very insignificant small Cost and Trouble: For which Purpose, it is only consulting me by Letter, or personal Conversation, and I will put any Person in the readiest way to come by and enjoy this pleasant and profitable Improvement.

So, in case a Gentleman occupies his own Land in a Country of a reverse Nature to the former; that is to say, where it is of the stiff Sort, and lies low and wet; an Improvement of such Ground ought to be adapted accordingly: And therefore particular Grains or Seeds, Trees, Beasts, &c. should be made use of, that would best agree with such a Soil and Situation, and make the most profitable Returns from the same. — But in these, or in any other Cases, Gentlemen are hereby cautioned to pay Postage of their Letters to my House, or send them frank'd to me, if they expect to receive Answer to the same from me.

How a Gentleman, by coming to see the Author, greatly approved this new-fashion'd Double-plough; and had one made directly, to be sent to his Seat,
that

that stands at about one hundred Miles from London, in a dry Chiltarne Country. ——— It was in the Month of *April* 1745. that a Gentleman was pleased, with his two Servants, to come to an Inn near my House, where he set up his Horses, and ordered a Dinner to be got ready; to which, after he had taken a Walk to my House, he invited me: And while this Gentleman was here, he viewed our famous double *Hertfordshire* Plough, that I have several times described in my former Works, of which there are two Sorts; and so approved of them, that he directly ordered one to be made for him, and it was accordingly made, and sent to him, in *May* 1745. Now what I have here to observe is, That this same Gentleman, who I think was one of the most accomplish'd I ever met with, took the great Conveniency of this Instrument at once: For it certainly must be of prodigious Service to him, for plowing and dispatching the most Work in his dry shallow Soil, in the least Time, and this only with a Team of four or five Horses, and particularly at the Sowing of Wheat, Barley, Peas, Beans, or Thetches, and Grass-seeds; for here its excellent Service may be proved in the highest Perfection.

ADVERTISEMENT.

THIS is to give Notice, to all Gentlemen and others, That the Author, WILLIAM ELLIS, furnishes the excellent Lady-finger-grass-seeds, that produces a Grass and Hay, which feeds and fattens all Sorts of Cattle, in the sweetest and quickest manner; and causes Cows to give a thick luscious Milk, that makes a fine delicate sweet, yellow, palatable Butter and Cheese: As also the wild Tare, or Tyne-grass-seeds, that commonly grow

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